The Influence of Affect on Leader Evaluations of Subordinates:  
A Laboratory Simulation Employing a Process Approach

by

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(ABSTRACT)

Recent work in performance appraisal has focused on the cognitive operations involved in a rating task, but has neglected the influence of affect. The purpose of the present study was to examine the process by which affect influences evaluations and to examine the impact of affect on outcome variables. A categorization-based model of the rating process was developed that included the influence of affect. According to the model, affect was postulated to influence the categorization process at the superordinate level. The model also postulated that the classification would then influence the processing of subsequent information.

To test predictions derived from the model, the present study simulated a work situation. Subjects were required to learn materials, train confederates, and then observe and evaluate confederate's videotaped performance. The impact of affect and item type was examined on
process measures and the impact of affect and performance was examined on outcome measures.

The results showed that affect biased leader evaluations in the form of leniency and severity. Signal detection analysis indicated that response bias may have been the cognitive mechanism underlying this effect. Leaders attributed non-performed behaviors to confederates in a category consistent manner. Path analysis showed that affect has direct and indirect effects on performance evaluations. The theoretical and applied considerations of the study's findings are discussed and future research directions are highlighted.
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# Table of Contents

Abstract ................................................................. ii

Acknowledgements ....................................................... iv

List of Tables ........................................................... vii

List of Figures ........................................................... x

Introduction ............................................................... 1

Defining Affect .......................................................... 2

A Generic Process Model ................................................ 3

Categorization Theory ................................................... 5

Categorization-Based Process Model ................................... 11

Affective-Based Process Model .......................................... 26

Summary and Hypotheses ................................................ 40

Method ................................................................. 47

Results ............................................................... 59

Discussion ............................................................. 87

References ............................................................. 109
Appendix A ......................................................... 118
Appendix B .......................................................... 125
Appendix C .......................................................... 128
Appendix D .......................................................... 130
Appendix E .......................................................... 132
Appendix F .......................................................... 134
Appendix G .......................................................... 136
Appendix H .......................................................... 138
Appendix I .......................................................... 140
Appendix J .......................................................... 142
Appendix K: Tables ............................................... 144
Appendix L: Figures ............................................... 181
Vita ................................................................. 202
LIST OF TABLES

1. Analysis of Variance on Interpersonal Judgment Scale:
   All Manipulated Factors ........................................ 145

2. Analysis of Variance on Interpersonal Judgment Scale:
   Confederate as an Explanatory Factor ...................... 147

3. Descriptive Statistics for Confederate x Affect Interaction ........................................ 149

4. Correlations for Measured and Manipulated Affect .......... 151

5. Analysis of Variance on IJS Using Created Affect,
   Performance and Timing Set as Factors ...................... 153

6. Analysis of Variance on Performance Manipulation Check ... 155

7. Analysis of Variance on Task Expectation Measure .......... 157

8. Analysis of Variance on A' ................................. 159

9. Analysis of Variance on A' With Performance as a Between
   Groups Factor .................................................. 161

10. Analysis of Variance on the Ten Non-presented
    Behavioral Items .............................................. 163

11. Analysis of Variance on Percent Confidence Index ........ 165

12. Analysis of Variance on B'' ............................... 167
13. Analysis of Variance on True Positives and Negatives ..... 169
14. Analysis of Variance on Global Performance Ratings ........ 171
15. Analysis of Variance on Global Expectations ................. 173
16. Correlations Among the Measured Variables .................. 175
17. Regression Results from Path Analysis ....................... 177
18. Direct, Indirect, and Total Effects of Path Analysis ....... 179
### LIST OF FIGURES

1. Generic Process Model ........................................ 182
2. Categorization-based Process Model ............................ 184
3. Affective-based Process Model ..................................... 186
4. Affect by Timing Set Interaction on Interpersonal
   Judgment Scale .................................................. 188
5. Affect by Confederate Interaction on Interpersonal
   Judgment Scale .................................................. 190
6. Affect by Item Type Interaction on Frequency of
   Attributed Non-presented Behavioral Items ....................... 192
7. Affect x Item Type Interaction on B'' .......................... 194
8. Affect x Performance Interaction on Global Ratings .......... 196
9. Affect x Performance Interaction on Global Expectations .. 198
10. Path Analysis Model ................................................ 200
INTRODUCTION

In organizational settings, a fundamental task of leaders is to evaluate subordinates. Periodically, these evaluations are made explicitly as leaders are required to rate the performance of their subordinates. These formal ratings are used to enhance the functioning of organizations: (1) by serving as input into personnel-related decisions such as promotions and firings, and (2) by providing feedback to subordinates to reinforce strengths and correct weaknesses.

Leaders also evaluate subordinates implicitly on an informal basis. This is done regularly as leaders strive to understand causes of subordinate behavior and to develop expectations for future performance. Informal evaluations have a relationship to formal evaluations. For example, leader expectations (an informal evaluation) may influence formal ratings through an indirect effect on the leader's and subordinate's behavior (Edan & Shawni, 1982; Rosenthal & Rubin, 1978). In addition, leaders routinely examine causes of subordinate behavior and performance, the outcome of which may also influence formal ratings (Green & Mitchell, 1979; Dobbins & Russell, 1986).

Recent research, focusing on improving the accuracy of performance ratings, has examined the rating task from an information processing perspective. This approach is derived from a blend of social and cognitive literatures. From this perspective, the cognitive operations of raters (e.g., automatic vs. controlled processing, Feldman, 1981) and the information processing requirements inherent in rating tasks (e.g.,
amount of information, Heneman & Wexley, 1983) are considered (Cooper, 1981; DeNisi, Cafferty, & Meglino, 1984; Feldman, 1981; Ilgen & Feldman, 1983; Landy & Farr, 1980). While making noteworthy contributions toward the performance appraisal literature, this view has a serious drawback. It does not consider the impact of leaders' feelings toward subordinates. Recent literature in organizational behavior (e.g., Cardy & Dobbins, 1986; Dobbins & Russell, 1986; Tsui & Barry, 1986), suggests that people's feelings have a dramatic influence on how they evaluate others.

The present study has two purposes. One purpose is to investigate the influence of leader affect on formal (e.g. performance appraisal) and informal (e.g. attributions) evaluations of subordinates. The second purpose is to examine the process by which affect influences these outcome variables.

The remainder of the introduction adheres to the following organizational scheme. First, the term "affect" is defined. Then, a generic model of information processing is presented. After this, categorization theory is applied to this generic model and research is reviewed and shown to be consistent with the categorization-based model. At the final stage, affect is introduced into the model.

DEFINING AFFECT

Conceptually, affect is a "generic term for a whole range of feelings and emotions" (Fiske & Taylor, 1984). In the present study, affect will refer to leaders' feelings toward subordinates. These sub-
jective reactions can be positive (a leader likes a subordinate) or negative (a leader dislikes a subordinate) (Fiske & Taylor, 1984).

Moods are also considered feelings. Moods are similar to feelings in that they vary in intensity (Isen, 1984). Two major differences exist between mood and the definition of affect used in the present study: moods typically do not involve a specific referent (although a specific referent may produce a generic mood), and moods are more short-lived (Clark & Isen, 1982). Moods change repeatedly during a day whereas people's feelings toward others are much less labile.

In the present study then, affect refers to a person's feelings toward another person. The term "affect" is used generically to refer to both liking and disliking.

A GENERIC PROCESS MODEL

In a prototypical situation, a leader may be responsible for evaluating the performance of anywhere from four to twelve subordinates (Bernardin & Beatty, 1984). In most organizations these evaluations occur once, or at most twice a year. To observe that many people, over that length of time, and integrate all that performance information, is a very complex task. The demands imposed by the rating task may well exceed the human information processor's capabilities. It is for this reason that much attention has been directed toward understanding the cognitive operations raters.
In the last few years, a number of cognitive models depicting the performance rating process have been proposed. Most attempt to describe the cognitive processes and biases that result when a rater makes evaluative judgments about a stimulus person (e.g., Cooper, 1981; DeCotis & Petit, 1978; DeNisi, Cafferty, & Meglino, 1984; Feldman, 1981; Ilgen & Feldman, 1983; Landy & Farr, 1980). These models can be reduced to four basic processing stages: encoding, storage, retrieval, and evaluation. Figure 1 illustrates the sequential flow of these four stages.

At the first stage of the generic model, information pertaining to a stimulus person is encoded. Encoding can be thought of as the process by which people form representations of their observations. People do not store information directly as it is perceived; rather, they attempt to interpret or make sense of what they perceive and it is this interpretation that gets stored (DeNisi, et al., 1984). During the six-month (or one-year) time interval between ratings, it is impossible for a supervisor to encode all the performance-related information on all the subordinates. Therefore, a funneling effect occurs and only a small amount of the total information available gets encoded.

In the next stage of the model, information that was encoded gets transferred to long-term storage. As with the encoding stage, there is a funneling of the performance-related information such that only a fraction of what was encoded actually makes it to permanent storage.
At the time performance ratings are made, the leader must attempt to retrieve all the performance-related information on all of the to-be-rated subordinates. At this one point in time, a leader can not retrieve all the pertinent information that he/she has stored over the last six months (or one year). Subsequently, another reduction occurs in the total amount of information available.

Finally, after the leader has retrieved the information, he or she must combine that information and form an evaluation of each subordinate's performance. Much research in cognitive psychology has demonstrated that people are limited in their capacity to integrate large amounts of information (Newell & Simon, 1972). Consequently, information at this stage gets distorted or omitted.

The generic processing model is a useful heuristic to conceptualize the major cognitive stages involved in a performance appraisal. The model, however, lacks precision. As a result, it can not be used to predict what information will be processed and how that information will influence performance evaluations. The precision of the model can be enhanced by the application of categorization theory. Before describing this application, an overview of categorization theory is presented.

CATEGORIZATION THEORY

A basic aspect of human information processing is that people are limited in their capacity for receiving, encoding, and retaining sensory
information (Newell & Simon, 1972). In other words, persons simply are not capable of attending and processing all of the information available to us. Therefore, perceivers must develop strategies to simplify the processing demands. Research has demonstrated that perceivers rely on categories to simplify, make sense of, and interpret their worlds. (Rosch, 1975; Rosch & Mervis, 1975; Rosch et al., 1976; Rosch, 1978)

According to Rosch (1978), a basic task of all organisms is to develop strategies to reduce the complexity of the environment. Rosch maintains this is accomplished by developing classification systems by which similar, but non-identical stimuli may be treated as equivalent. Rosch's analysis showed that categories have an internal structure.

Categorization is the process of identifying a stimulus as a member of a class (Fiske & Pavelchak, 1986). For example, a terrier may be identified as belonging to the category "dog". Categorization of a stimulus object allows the perceiver to "go beyond the information given" (Bruner, 1957). Thus, once a terrier has been categorized as a dog, the perceiver may apply to the terrier general knowledge and expectations about dogs without actually having to witness them in the object category. That is, the perceiver would expect the terrier to bark, chase cats, chew on bones, etc. This brief example illustrates how categorization influences the information available to perceivers.

Categorization research typically addresses either the inherent structure of categories or how categories function to influence information processing. These two aspects are considered in turn.
In her work on object perception, Rosch (1978) suggested that categories have a hierarchical internal structure based on vertical and horizontal dimensions. According to Rosch (1978), the vertical dimension is structured hierarchically and pertains to the degree of inclusiveness. As category inclusiveness increases, the number of different types of stimuli that can be classified into a category increases. Therefore, as inclusiveness increases more types of different stimuli are being treated as equivalent.

Three levels of inclusiveness are proposed: superordinate, basic, and subordinate. The most inclusive level is the superordinate category. For example, a superordinate category may consist of mammals versus non-mammals. A specific type of mammal, i.e., dog could be considered a basic level category. At the least inclusive level, the subordinate level, the category type of dog (e.g. terrier) may exist.

The horizontal dimension makes distinctions among categories within the same vertical level of inclusiveness. In other words, it is the dimension along which different superordinate, different basic, and different subordinate categories vary (Rosch, 1978). Within the same vertical dimension, there are no clear-cut boundaries that differentiate all members from nonmembers (Cantor & Mischel, 1979a). Rather, categories may be considered as "fuzzy sets" in which members of a category along a horizontal dimension have overlapping attributes in common with
other members of the category; but, no two members are identical on all attributes (Fiske & Taylor, 1984).

Rosch (1978) employs the principle of family resemblance to describe the degree of overlap at the same level of a category. That is, at a particular horizontal level, instances of a class share similar attributes, but there is no single set of features that defines all members within a given level. For example, at the basic level of dog, there are differences between terriers and beagles, as well as similarities (e.g., they have four legs, one tail, bark).

The amount of features that an instance has in common with a category varies. The term "prototype" is used to refer to an abstract composite that contains the most representative attributes of a category (Rosch, 1975). According to categorization theory, stimuli are compared to this abstract prototype. The greater the degree of similarity between the instance and the prototype, the more likely it will be classified as a member of that category (Fiske & Taylor, 1984). Category is not synonymous with prototype; whereas a category contains instances of a class, a prototype refers to features typical of the category (Fiske & Pavelchak, 1986).

Rosch, in her research on perception of objects, found that subjects could reliably rate the extent to which an object fits their idea of a particular category (Rosch, 1975; Rosch & Mervis, 1975). Rosch's research pertained to the perception of objects. Subsequent research showed that person categories (Cantor & Mischel, 1979a) and leader cat-
Affect

categories (Lord, Foti, & Phillips, 1982; Foti, Fraser, & Lord, 1982; Lord, Foti, & Devader, 1984) have a similar internal structure (i.e., they have a hierarchical vertical structure and a horizontal structure that relates categories according to the family resemblance principle.

To summarize, people rely on categories to simplify a complex world. Categories have an internal structure that varies on vertical and horizontal dimensions. Stimuli are categorized according to the principle of family resemblance: the more features an instance has in common with a prototype the more likely it will be classified as an example of the category. Once a stimulus has been categorized, features prototypical of the category are ascribed to the instance.

Category Function

Above, it was mentioned that categories allow perceivers to go beyond the information given, to infer knowledge, and to develop expectations regarding a stimulus object. This occurs because features, consistent with the category prototype, are applied to the instance (Fiske & Pavelchak, 1986). Recent research in social cognition has demonstrated that categories function to guide perception, memory, and inference processes and that the processing of information is simplified (Hastie, 1981; Fiske & Taylor, 1984; Wyer & Srull, 1986).

It appears that categories function to influence information processing in much the same way as set effects influence perception. Haber (1966) reviewed evidence that supported two mechanisms by which set effects occur: (a) one is located in the perceptual system itself
and occurs by enhancing the salience of feature-relevant attributes; and (b) the other maintains that set does not influence perception per se; rather, set facilities responses and memorial organization. It appears, therefore, that set and category have similar functions.

An illustration of how categories may influence information processing is found in the situation in which a leader has to categorize one subordinate as a good performer and a second subordinate as a poor performer. According to categorization theory, in subsequent interactions, the leader will tend to encode performance-related information in a category-consistent fashion (cf. Higgins & Bargh, 1987), i.e., for the good subordinate, the leader will tend to encode positive-performance behaviors and for the poor subordinate leaders will tend to encode negative performance behaviors. Therefore, even if the poor performer exhibited good behaviors and the good performer bad behaviors, these behaviors are likely to be discounted or go unnoticed (Ross, Lepper, & Hubbard, 1975; Ruble & Stranger, 1986). In cases where inconsistent behaviors do get noticed, the leader may develop explanations to rectify the inconsistent behaviors and maintain the original categorizations (Lord, Ross, & Lepper, 1979). When the leader retrieves information about each of the two performers, information consistent with the categories will tend to be recalled (e.g., O'Sullivan & Durso, 1984). Perhaps the most pernicious consequence is that inferences about future performance are likely to be biased by the category assignment (Lingle
These ideas are developed in the next section which details the impact of categories on the processing of information.

CATEGORIZATION-BASED PROCESSING MODEL

Earlier, the point was made that the generic processing model lacked the precision to generate predictions concerning what information ultimately was brought to bear on a performance rating. Categorization theory, applied to this generic model, can be used to overcome this limitation. It is hypothesized that categorization has a direct influence on the encoding, retrieval, and evaluation stages and has an indirect influence on storage through the effects on encoding. Figure 2 presents a schemata of the categorization-based model.

According to the model, a perceiver initially categorizes a target. This categorization may be influenced by: (a) information received about the person (Schneider, Hastorf & Ellsworth, 1979); (b) recent or frequent use of the category, i.e., priming effects (Higgins, Rholes, & Jones, 1977; Wyer & Srull, 1986); (c) current needs (Bruner, 1957); or (d) processing objectives (see Srull & Wyer, 1986, for a review).

Encoding and Retrieval

Once a stimulus has been classified, subsequent information relevant to that instance tends to be encoded in a manner consistent with the category (Berman, Read, & Kenny, 1983; Cantor & Mischel, 1977, 1979b; Rothbart, Evans, & Fulero, 1979). Studies examining this selective encoding phenomena have three major phases: category activation, stimulus
presentation, and memory assessment. Study 1 by Cohen (1981) is representative and will be used to illustrate the phases.

In the first phase, a category is primed or activated. It should be noted that while category activation usually occurs directly, it may also occur without subject awareness (Bargh & Pietromonaco, 1982), or by exposure to seemingly unrelated material (cf. Cantor & Mischel, 1979b). Cohen's study used an occupational category prime. Subjects were told to watch a videotape where half of them were led to believe the person was a librarian and the other half were told the person was a waitress. The stimulus material is presented in the second phase. In Cohen's study (as most research in this area), all subjects were exposed to the same videotape. It is important that the stimulus material be ambiguous so that a biasing effect of the prime can operate. The third phase consists of an assessment of the information that subjects encoded. Cohen gave subjects a recognition test (others have used recall measures) that contained behavioral items from the two categories. Her results showed that subjects were more accurate on category-consistent items than on category-inconsistent items.

Cohen's study manipulated category activation prior to exposure to the stimulus materials. Although her results showed an effect for category-consistent information, it is possible that this effect was due to retrieval and not encoding processes. In fact, research has shown that category activation after exposure to stimulus material can also influence memory accuracy (e.g., Snyder & Unranowitz, 1978). There is
A major procedural difference between studies examining retrieval rather than encoding processes. For retrieval studies, the stimulus material is presented first, followed by category activation and then assessment. If a category is primed after the stimulus material has been presented, then encoding processes could not account for any memory-based effects.

To separate retrieval from encoding processes, the time when the category is primed has to be manipulated: half the subjects should learn the relevant categorical information before viewing the stimulus materials and half should learn it after the presentation of the material (Taylor & Fiske, 1981). Several studies (Cohen, 1981, Study 2; Rothbart, Evans, & Fulero, 1979; Wyer, Srull, Gordon, & Hartwick, 1982; Zadny & Gerard, 1974) have manipulated the time when categories were primed (pre-observation vs. post-observation) Cohen's (1981, Study 2) study will be used to illustrate these efforts.

In Cohen's second study, half the subjects were told the person on the videotape was a librarian and the other half were told the target was a waitress. The time when the category was activated was crossed with the occupational prime: half the subjects were told the occupation before viewing the tape and the other half were told just after viewing the tape. If one process was predominant, then an interaction would occur as a function of the time manipulation. Her results supported the effects of categorization on recognition accuracy: subjects were more accurate for category consistent items. This effect occurred at both
pre-observation and post-observation. The timing effect did not interact with selective accuracy.

For subjects who were primed after stimulus exposure, the increase in accuracy for consistent behaviors could not have been due to selective encoding. Therefore, one can conclude that some categorization-based influence occurred at the retrieval stage. However, a selective retrieval interpretation may not be correct either. It may have been the case that subjects were responding in a manner consistent with the category and not on the basis of actual information that was perceived. In other words, subjects may have responded on the basis of a representation they had formed of the stimulus person, and not on the basis of the actual information that was presented. A null control group may have provided evidence bearing on this issue.

**Response Bias**

The increased accuracy for category consistent information may have resulted from a phenomena referred to as response bias (Berman, Read, & Kenny, 1983; Cohen, 1981, Study 2; Snyder & Uranowitz, 1978). Response bias may be defined as the tendency of a perceiver to attribute to a target behaviors that did not occur, but that are consistent with the category to which the target was assigned. The following example illustrates the response bias phenomena. A leader has categorized a subordinate as a poor performer after the subordinate missed an important deadline. Subsequently, the leader attributed other poor performance
behaviors to the subordinate (e.g., tardiness), even though the subordinate was never late.

A number of studies have examined response bias using recognition measures that contain category-consistent behaviors that have occurred and category-consistent behaviors that have not occurred (i.e., foils) (Foti & Lord, 1987; Larson, Lingle, & Scerbo, 1984; Phillips, 1984; Phillips & Lord, 1982). A study by Phillips and Lord (1982) will be reviewed to illustrate the effects of response bias on evaluations.

Phillips and Lord (1982) presented subjects with a videotape of a four-person, problem-solving group. After watching the tape, participants were led to believe the leader was effective or ineffective by providing bogus feedback about the group's performance. Subjects were led to believe that the group had performed either second best or second worst of 20 groups that had performed the task. Following the bogus performance information, the subjects completed a recognition questionnaire. The items were instances of behavior that were consistent with the categories of good and poor performers. Half of the behaviors for each category were foils, i.e., they were not present on the videotape. The results indicated that subjects distorted their evaluations of leader behavior so that they were consistent with the category activated by the bogus performance feedback. In other words, subjects attributed behaviors to the leader that were consistent with the category activated by the manipulation, but were not present on the videotape.
The above research has demonstrated that categories may function to influence the encoding, retrieval and evaluation stages of information processing. As indicated, some of this research has attempted to separate encoding versus retrieval processes. Larson et al (1984) examined which of the three cognitive mechanisms (i.e., selective encoding, selective retrieval, or response bias) mediated the effects of categorization. They began by priming all subjects before presenting the stimulus material. Half of the participants were led to believe the group they were to watch was rated as second best (successful) and half were told the group was rated as second worst (failed). After exposing the subjects to a 30-minute videotape of a three-person problem solving group, all subjects were told that the wrong tape was shown. Half of the subjects were given a post-observation prime consistent with the initial prime. They were told the group they actually saw was the best (worst). The other half was given a post-observation prime inconsistent with the initial prime (e.g., if they were told the group was the second best before viewing the tape, they were told the group was the worst after viewing the tape, and vice versa). This 2 (pre-good vs. pre-poor) x 2 (post-good vs. post-poor) design provided a test of the relative effects of encoding versus retrieval. To examine the effects of response bias, behavioral items were included that were not present on the videotape.

The first analysis examined the influence of the performance primes on the standard Leader Behavior Description Questionnaire (LBDQ).
The results indicated a main effect for the pre-observation and the post-observation manipulations. Inspection of group means indicated that subjects in both success conditions rated leaders as exhibiting more considerate and initiating structure behaviors. Consistent with other research (Phillips & Lord, 1981; Phillips, 1984), the post-observation prime effect was stronger than the pre-observation prime. "The post-observation prime accounted for 12% and 18% of the variance in the Consideration and Initiation of Structure scales, respectively while the pre-observation performance manipulation accounted for only 4% and 2% of the variance, respectively" (p. 338).

The effects of the cognitive mechanisms that mediated the above results were measured with two questionnaires that contained examples of specific behaviors that were included on the videotape: a quotations measure designed to assess subjects' recognition memory for leader remarks that were either considerate or structuring in nature and an ideas measure designed to assess subjects' recognition memory for problem solutions introduced by the leader. Both measures contained foil items to examine response bias. Two indexes, derived from signal detection theory, were used to analyze the data: a recognition memory accuracy index, A', and a response bias indicator, B''. A' is a nonparametric index of memory sensitivity that is based on each subject's memory operating characteristic curve (MOC) (Banks, 1970). An MOC curve is a theoretical curve derived on the basis of subjects hit and false alarm rates. (See Larson et al., 1984, for a more detailed explanation). B''
is a nonparametric indicator of response bias and ranges from +1.0 to -1.0. Higher values of B'' indicate a bias toward reporting that behaviors did not occur and lower values of B'' reflect a bias toward reporting that behaviors did occur.

A multivariate analysis of variance on the accuracy scores for the two specific behavior questionnaires yielded both a significant pre-observation main effect and a significant two-way interaction. Follow-up univariate analysis indicated the Leader Quotations Questionnaire did not produce a significant main effect or interaction. Analysis of the Leader Ideas Questionnaire revealed significant main effect for the pre-observation prime and a significant two-way interaction. Larson et al (1984) interpreted the pattern of results as follows: First, the main effect of the pre-observation prime was due to subjects in the pre-observation success conditions being more accurate than subjects in the pre-observation failure conditions. Second, the interaction occurred because subjects were more accurate when they were given pre-observation success and post-observation success primes. These findings were taken as evidence of a selective encoding effect as compared to a selective retrieval effect.

The effects of response bias were assessed with B''. The results indicated that subjects attributed more quotations and idea solutions to leaders in the post-observation success conditions than in the comparable post-observation failure conditions. No other effects were significant. These findings demonstrate response bias tendencies.
Subjects, consistent with a post-observation success prime, attributed behaviors to leaders that the leaders did not perform.

To summarize, Larson et al (1984) found that priming the effectiveness of a group's performance led subjects to describe leaders in successful groups as more considerate and exhibiting more structuring behaviors than leaders in unsuccessful groups. Analyses of recognition memory data showed that two cognitive mechanisms mediated these effects. First, examination of the memory sensitivity index, A', showed that subjects selectively encoded information in a category-consistent manner. Subjects were more accurate when they were given a pre-observation success prime. Second, analysis of the response bias measure, B'', showed an influence at the retrieval stage. Subjects were more biased toward attributing both quotations and idea solutions to the leader in the two post-observation success conditions than in the comparable post-observation failure conditions.

Inconsistent Information

In their analysis of the Leader Ideas Questionnaire, Larson et al (1984) created a within-subjects factor by dividing the ideas into two groups: high and low quality. The ideas were split to determine if the performance prime would interact with idea type. The analysis showed that this repeated measures factor did not contribute a significant effect. More behaviors were ascribed to successful leaders regardless of item type.
There are situations in organizations, however, where type of behavior (e.g., high quality vs. low quality) may influence information processing and attributing more behaviors to a leader may not be better. In the course of performing jobs, most people will exhibit a mix of bad and good work behaviors. In the case of bad performance behaviors, if they were attributed to a target, then more would not be better. For example, some behaviors that were attributed to ex-president Nixon while he was in office led many people to believe he was a bad leader.

By including good and poor behaviors, situations can be created where information is inconsistent with a category. Several questions can be raised concerning how people deal with category-inconsistent information. For example, is inconsistent information more accurately remembered? Or, do people ascribe more category-consistent behaviors even if they are poor behaviors? The Larson et al. (1984) study could not address these issues because the intended high and low quality behaviors were not perceived differently. That is, all items were perceived as evaluatively consistent.

Typically, people tend to process information in category-consistent fashion (Fiske & Taylor, 1984; Higgins & Bargh, 1987). That is, once a particular category has been primed, subsequent information is encoded and/or retrieved in a manner consistent with the category. A number of studies have found that information consistent with category-derived expectations is reported more accurately than information that is irrelevant or inconsistent (Berman, Read, & Kenny, 1983;
Affect

Cantor & Mischel, 1979; Cohen, 1981; Rothbart et al., 1979; Zadny & Gerard, 1974). On the other hand, some research suggests that inconsistent behaviors tend to be better remembered than consistent behaviors (Hastie, 1980; Hastie & Kumar, 1979; Hastie & Park, 1986). The inconclusive results led researchers to search for moderators to the relationship between information type and memory accuracy.

Moderator Variables. Information may be consistent, inconsistent, or irrelevant to a category. Some results (Rothbart, et al., 1979) show that consistent information is more easily remembered than irrelevant information (e.g., Rothbart et al., 1979). However, there is a difference between information that is irrelevant and information that is inconsistent with an expectancy. Hastie and Kumar (1979) compared category inconsistent and category consistent information and found that category inconsistent was more easily recalled. The results from the Hastie and Kumar study were confounded with set size. There were fewer inconsistent behaviors than consistent behaviors. In fact, it has been shown that when consistent behaviors are in the minority, they tend to be more easily remembered (Hemsley & Marmurek, 1982).

A second moderator to the memory accuracy-information type relationship was identified by Wyer and Gordon (1982). They noted that in the Hastie and Kumar study, the inconsistent behaviors were both evaluatively and descriptively inconsistent with the category-based expectancy. For example, unfriendly behaviors are different from friendly ones not only because they are the opposite type of behavior (i.e., de-
scriptively inconsistent), but also because they are socially undesirable (i.e., evaluatively inconsistent). Wyer and colleagues (Wyer & Gordon, 1982, 1984; Wyer, Bodenhausen, & Srull, 1984) have manipulated the two types of consistency and found evaluative inconsistency to be the most important determinant of enhanced memory for behavioral information.

Finally, Higgins and Bargh (1987) suggested that the type of task may influence whether inconsistent or consistent information is better remembered. For example, they noted there is a big difference between "studying how people test already formed impressions or beliefs" and studying "how people form beliefs in the first place" (p. 381). The results, however, are mixed even when studying similar tasks. For example, in examining category formation, Hastie and Kumar (1979) reported support for inconsistent behavior and Berman et al (1983) reported support for consistent behaviors. The present study is concerned with examining the effect of formed categories and not with category formation.

This brief review suggests a number of moderating factors to the information type by memory accuracy relationship. As indicated above, the type of task, the type of information, and the amount of material included in a study can all have an impact on a memory-based accuracy measure. These factors are considered again when predictions pertaining to accuracy are derived.

Rating Process and Inconsistent Information. The Larson et al (1984) study contributed to the process-oriented literature by examining re-
sponse bias in addition to selective encoding and selective retrieval. To date, however, organizational behavior research has not addressed the influence of these mechanisms on evaluatively inconsistent information. To anticipate the main focus of the present study, an appropriate question would be "What happens when the target person exhibits evaluatively inconsistent behaviors?". The Larson et al (1984) study made a tenuous contribution to this question. For their Leader Ideas Questionnaire, the behavioral statements were divided into both low and high quality ideas. Each member of the three-person group contributed two high-quality ideas and two low-quality ideas. The analysis did not support the hypothesis that subjects would attribute more high-quality ideas to leaders of successful groups and low-quality behaviors to leaders of unsuccessful groups. They found that subjects in the post-observation success condition attributed more behaviors to leaders, without reference to the quality of the ideas. This main effect was interpreted as a global response bias.

A potential reason for the null result was that the items were not perceived as evaluatively inconsistent with the primed categories even though they were intended to reflect favorable and unfavorable behaviors. From the subjects' perspective, the more behaviors attributed to the leader the better the performance. This contention can not be ruled out because the authors did not provide evidence supporting differential perceptions of item quality. In fact, the authors did not even describe the decision process that determined the quality of the idea solutions.
The present study attempted to overcome this limitation by creating conditions where behaviors would be perceived as evaluatively inconsistent. This issue is addressed below after affect has been added to the category-based process model.

Subsequent Judgments

A formal evaluation of a stimulus, as in a global performance rating, has the effect of solidifying the perceiver's representation of the stimulus. That is, stimulus has now been formally classified. Another way of expressing this notion is that the formal evaluation provides the perceiver with a set from which to view the stimulus. Subsequent judgments are influenced by the previous evaluation because (a) category features, derived from a comparison of a stimulus to a category prototype, are ascribed to the stimulus (Wyer & Srull, 1986); and (b) the abstract judgmental summaries, stored with the representation, are relied on increasingly over time when reconstructing original stimulus information (Graesser, Woll, Kowalski, & Smith, 1980). Subsequently, once this representation has been formed, judgments about the stimulus are likely to be influenced (Carlston, 1980; Lingle & Ostrom, 1979; Wyer, Srull, & Gordon, 1984).

Lingle and Ostrom (1979) conducted three studies in which subjects made occupational suitability judgments. The dependent variable was reaction time. The main result, repeated across three experiments, was that subjects took longer to make a second occupational suitability judgment when the information was inconsistent with an initial judgment.
This result was interpreted as support for a judgment-retrieval model "which postulates that subjects base their second decisions on memory for their initial judgment and its associated effects" (p. 192).

Carlston (1980) gave subjects behavioral information that had implications for two evaluative traits: kind and honest. Some subjects made judgments about one trait and other subjects made judgments about both traits. The results showed that making a prior judgment had an effect on a subsequent judgment. For example, subjects, who evaluated the kind trait first and then evaluated the trust trait, rated the target greater on the trust trait than subjects who did not make a prior kind trait evaluation (and vice versa).

In summary, these two studies demonstrate that when asked to make a subsequent judgment people rely on a representation formed by an initial judgment. Accordingly, once a leader has made a formal evaluation of a subordinate's performance, subsequent decisions will be influenced by the initial evaluation (cf. Murphy & Williams, 1986). The present study tests this hypothesis by having subjects complete instruments that measure future performance expectations.

Summary of Category-based Process Model

The categorization model and accompanying research suggest that people develop categories to simplify information processing demands. Categorizing an instance allows a perceiver to infer a body of knowledge and to develop a set of expectations about the instance without having to verify that those features actually apply to the stimulus. The re-
liance on categories and the accompanying prototypes influences the processing of information in a predictable manner. First, perceivers tend to selectively encode and retrieve information in a manner consistent with category assignment. Second, information consistent with the category prototype (but that has not been presented) tends to be attributed to a target, producing a response bias effect. Third, categorization mediated processes and characteristics of the stimulus material interact to influence accuracy. For example, information evaluated inconsistent to a category is better remembered than information that is descriptively inconsistent. Finally, subsequent decisions are influenced by the initial categorization. The next section considers the influence of affect in the categorization-based model.

AFFECTIVE-BASED INFORMATION PROCESSING MODEL

A number of researchers have suggested that affect is an important variable to consider within the context of performance ratings. For example, Landy and Farr (1980) called for research to investigate how rater feelings toward a stimulus object may influence evaluations; Feldman, (1981) suggested affect may produce leniency and severity effects in performance ratings; and Ilgen and Feldman (1983) contended that affect may influence the perceptual and judgmental process in performance ratings. To date, however, only one model explicitly considers the influence of affect, and that model is limited to discrimination in performance evaluations (Dipboye, 1985).
The categorization-based model presented above increases the precision of a generic information-processing model. It does this by providing a framework from which to derive predictions regarding information used by a perceiver in rating a target's performance. Figure 3 depicts a model that includes the influence of affect on the processing of information.

According to the model, affect precedes the categorization process. This notion is consistent with other theoretical conceptions. For example, Zajonc (1980) maintains that "the very first stage of an organism's reaction to stimuli and the very first elements in retrieval are affective" (Zajonc, 1980). Wyer and Gordon (1984) suggest that impressions formed about others contain an evaluative component. They speculate that an evaluative concept of a person is formed by comparing the person's attributes with those of a prototypic likable or dislikeable individual. More recently, Wyer and Srull (1986) presented an elaborate model of person memory and impression formation. In essence, their model states that people: (a) interpret the behaviors of a target in reference to a primed category; (b) attempt to extract an evaluative concept of the target as either likeable or dislikeable on basis of the initial information provided; and (c) interpret subsequent behavior in terms of the evaluative concept formed.

The model differs from other affective-based models that suggest categorization precedes affect (cf. Fiske & Pavelchak, 1986). The critical difference is in the relation between affect and cognition.
For example, in Fiske and Pavelchak's model, affect is contingent upon the categorization process. The central premise of their model is that an initial stage of categorization influences a second affect-generation stage. The present model differs in that affect is proposed to influence cognitions. It actually, the relationship between affect and cognitions is probably nonrecursive. There are situations in which feelings influence thoughts and thoughts influence feelings. Furthermore, this bidirectional influence is dynamic. Change in cognitions produces change in feelings which in turn produces change in cognitions. affect influences cognitions and vice versa.

The model presented in Figure 3 postulates that people first develop an affective orientation to others. That is, upon meeting someone they form an evaluation that leads them to either like or dislike the target person. This is consistent with the literature (Hartwick, 1979; Wyer & Gordon, 1982; Wyer et al., 1984) and with behavior in organizations. For example, most people work in an organization for weeks (even months) before they are formally evaluated. This is ample time for raters to form evaluative impressions of ratees.

The affective evaluation, in turn, influences the categorization at the superordinate level. A liked person would be placed in an evaluatively positive category and disliked person in an evaluatively negative category. Fiske and Pavelchak's (1986) model provides a similar interpretation. In their model, categories have an evaluative component: either positive or negative. According to their model, after an
object is classified, it is assigned either a positive or negative valence. The major difference then between Fiske and Pavelchak's model and the affective-based process model is direction of causality. In the former, classification influences affect and in the latter, affect influences classification.

The next aspect of the model specifies that subsequent processing of information will be influenced in a category consistent fashion. As described above, raters will expect category consistent behavior, selectively encode and retrieve category consistent information, and exhibit a category consistent response bias.

Based on this analysis, predictions can be derived regarding the processing of performance-related information. Specifically, if a leader categorized a subordinate into a superordinate positive or "good" subordinate category, the leader would: (a) expect that subordinate to perform well, (b) selectively attend and retrieve information consistent with the category, i.e., good performance behaviors, and (c) attribute to the person good performance behaviors that did not occur. If the leader did not like the subordinate, the same results would occur except the focus would be in the negative direction.

An important implication of this model is that affect, by influencing the processing of information, will have an impact on two relevant outcome variables: global performance ratings and attributions. Research consistent with this hypothesis is reviewed below.

Performance Ratings
Performance appraisal refers to the process by which an observer, often a supervisor, peer, or subordinate, rates the job performance of an employee (DeNisi, Cafferty, & Meglino, 1984). A complete performance appraisal system would include nonjudgmental measures that are directly related (e.g., amount of a product produced, amount of material wasted) and indirectly related (e.g., absenteeism, tardiness, grievances) to performance as well as judgmental indices of performance (Bernardin & Beatty, 1984; Landy & Farr, 1983). In reality, however, most organizations rely almost exclusively on judgmental measures as the primary criterion variable (Landy & Trumbo, 1980). This has been of particular concern insofar as the vulnerability of judgmental measures to both intentional and inadvertent bias has been amply demonstrated (Landy & Farr, 1984).

An extensive literature now exists that details different sources of bias and their associated effects on performance ratings (e.g., Bernardin & Beatty, 1984; Landy & Farr, 1983). Two approaches have typically been used to reduce bias in ratings and improve accuracy: one has been to manipulate the content and format of a rating system (e.g., Blanz & Ghiselli, 1972) and the other has been to train raters to provide more accurate ratings (e.g., Bernardin & Pence, 1980). Dissatisfaction with the results of these efforts have redirected researchers efforts to the study of the cognitive processing involved in the performance rating task (Landy & Farr, 1980).
In recent years, a number of information processing models depicting the rating process have been proposed. Most attempt to describe the cognitive processes and biases that result when a rater makes evaluative judgments about a stimulus person (e.g., Cooper, 1981; DeCotiis & Petit, 1978; DeNisi, Cafferty, & Meglino, 1984; Feldman, 1981; Ilgen & Feldman, 1983; Landy & Farr, 1980). Affect is conspicuous in its absence from these models.

The Influence of Affect on Performance Ratings

A slowly-accumulating body of research demonstrates the influence of affect on global performance ratings. For example, Regan, Straus, and Fazio (1974) provided an initial test of this proposition. They manipulated affect (but kept performance constant) and postulated that the same behavior would be evaluated more positively when the actor is liked than when she is disliked. To test this prediction, affect was manipulated by having subjects view a videotape of a confederate acting in a rude or a considerate fashion and by providing bogus attitude information that was either similar or dissimilar to their own. Next, subjects observed a videotape of a confederate playing a game and then answered a set questions concerning what they had observed. Two questions derived from Byrne's (1965) interpersonal judgment scale were used to assess affect: how much they liked the confederate and whether they were willing to work with the confederate in an experiment. Another question asked subjects to evaluate the skill level of the confederate.
Their results showed that the manipulation of affect was successful. Liked players were judged as more skillful than were disliked players.

Nisbett and DeCamp-Wilson (1977) examined the impact of affect on subject judgments of a professor's videotaped teaching performance. The likeableness of the instructor was varied in the two tapes. In one videotape, the professor was presented as warm, likeable, respectful; and, in the other he was presented as unlikeable, cold, and distrustful. Subjects were asked to indicate how much they would like the teacher using an 8-point scale anchored with strongly like and strongly dislike. The manipulation check showed that subjects rated the likable professor more favorably. The results showed that subjects' ratings were biased in the form of halo. That is, evaluations of attributes that were allegedly unrelated to the manipulation were influenced by the manipulation. Another significant finding was that subjects apparently were not aware of the global influence of liking on their evaluations.

There is a problem with the above study. The affect manipulation was not independent of performance. Marsh (1984) has concluded that concern and respect for students is an important dimension of instructor performance. The manipulation used by Nisbett and DeCamp-Wilson influenced affect and also this performance dimension. Their results may not have been a reflection of halo, but merely a result of their inadvertant performance manipulation.

Recently, Cardy and Dobbins (1986) suggested that affect may also decrease accuracy in ratings. They argued that this would occur if af-
fected operated as an integral dimension and not as a separable dimension. Integralness of a factor indicates that it exerts an influence on judgments of other dimensions and separableness means that it has no influence on judgments of other dimensions.

To test the hypothesis that liking interferes with evaluations of performance, subjects were given written descriptions that portrayed an instructor as likeable or dislikeable. Affect was manipulated orthogonally to performance in three of six sets within a vignette and was constant within the three other sets (see Cardy & Dobbins, 1986, p. 675 for a table depicting these combinations). Next, subjects were presented with four vignettes that contained the materials for one of the six sets. Each vignettes consisted of 15 critical incidents describing an instructor's classroom behavior. True scores were provided by the source that generated the incidents (Sauser, Evans, & Chapman, 1979). After reading each vignette, subjects rated the performance and their level of affect for the instructor. Affect was measured by having subjects indicate how much they liked the instructor on a 1 (disliked very much) to 7 (liked very much) point scale. To determine whether affect interferes with the judgment of other dimensions, a differential accuracy (DA) index was used. This index measures accuracy controlling for overall rating level and the rating levels for dimensions and ratees (Cardy & Dobbins, 1986).

The results showed that raters were less accurate in evaluating performance when affect was varied orthogonally to performance levels
than when liking was constant (Cardy & Dobbins, 1986, p. 675). This finding supported the main hypothesis that affect is an integral element of performance evaluations. That is, raters' feelings toward the instructors interfered with their perceptions of the instructors' performance so that they were not able to evaluate performance independent of their feelings. Affect produced this effect, not by shifting the rating levels, but by increasing noise or error in the evaluations.

Finally, Tsui and Barry (1986) extended this line of research into an applied setting. They collected survey data from a group of managers and from some of their supervisors, peers and subordinates. The measures were designed to examine performance perceptions using a ten-item managerial role behavior instrument and a 3-item perceived affect scale. The sample of raters was trichotomized on the basis of self-reported interpersonal liking. The three groups (labeled positive, neutral, and negative affect) were split to produce an approximately equal number of raters in each group. The results from ANOVA procedures and intercorrelations showed the following: (a) positive and negative affect produced halo, with negative affect having a stronger effect; (b) across superiors, peers, and subordinates, positive affect produced the most leniency and negative affect the least; (c) range restriction was greatest with neutral affect and did not differ between positive and negative affect and (d) interrater agreement was higher when raters were in similar affect conditions -- positive, negative, or neutral.
The above research shows that affect influences performance evaluations. For example, the same level of performance was evaluated more positively if the ratee was liked than disliked (Regan, Strauss, & Fazio, 1974). Affect also decreased the accuracy of ratings by introducing error variance (Cardy & Dobbins, 1986). The influence of affect was extended to an applied setting and was shown to have produced several types of rating errors (Tsui & Barry, 1986). In addition to having an impact on formal performance ratings, affect may also influence informal evaluations (Feldman, 1981). In particular, affect may influence rater assessments of causality for ratee performance. Following a brief discussion of attribution theory, research which has examined the influence of affect on performance-related attributions is reviewed.

**Attribution Theory**

Attribution theory is an attempt to describe how people derive causal explanations in an attempt to understand, predict, and control their world (Heider, 1958). Since its conception, attribution theory has undergone a number of modifications and extensions. In one extension, Jones and Davis (1965) refined Heider's original approach. According to them, to the extent that few noncommon effects are associated with an action, the social desirability of the act is low, and the behavior was freely chosen, perceivers make correspondent inferences from acts to dispositions. In other words, you can tell what a person is like by observing their actions.
Kelley published a series of papers that further refined the attribution approach (1967; 1972; 1973). According to Kelley, people either can employ a sophisticated causal analysis by examining the covariance of three types of information: distinctiveness -- is the response associated uniquely with the stimulus, consensus -- do other people respond in a similar manner to the same stimulus, and consistency -- is the response the same over time on successive exposures to the stimulus. Or, people may simplify the process by resorting to causal schemata to guide their determinations of causality. Kelley defines a causal schemata as "a general conception the person has about how certain kinds of causes interact to produce a specific kind of effect" (p. 151).

In discussing the use of causal schemata, Kelley (1973) notes that people tend to prefer simple, unidirectional, causal schemata. That is, people tend to assume a single cause for a variety of effects. An example of a simple causal schemata that can be related to a number of effects is a person's feelings toward another. That is, if a perceiver liked (disliked) a target person, then the perceiver would expect good (bad) actions from the target. To support this claim, Kelley (1973) suggests that affective similarity is a simple causal schemata and can provide the basis for linking cause and effect such that "the good act is caused by the good person, and the bad act, by the bad one" (p. 123).

A third framework for identifying causes of performance has been identified by Weiner and his associates (Weiner, et al., 1971). In their original conceptualization, four causes were used to identify success
Affect

and failure: ability, effort, task difficulty, and luck. These causes vary on the dimensions of locus of causality and stability. Specifically, locus of causality refers to whether the cause is internal (effort or ability) or external (task difficulty or luck), and stability refers to whether the cause varies over time (effort or luck) or remains relatively stable (ability or task difficulty). A number of studies have applied the 2 x 2 matrix to assess causality in leader-member situations (e.g., Dobbins, et al., 1983; Mitchell & Kalb, 1981).

To summarize, attribution theory suggests that people routinely make assessments of causality. By so doing, it facilitates people's understanding, prediction, and control of their worlds. Furthermore, Kelley (1973) suggests that people often rely on simple causal schemata to guide their ascriptions of causality. Therefore, it is suggested that affect may influence the attribution of causality in a manner suggested by Kelley's affective similarity notion (i.e., liked person -- good actions; disliked person -- bad actions).

The Influence of Affect on Attributions

Only two studies were located that addressed the influence of affect on attributions. Regan, Straus, and Fazio (1974) hypothesized that affect would strongly influence an observer's assessment of causality: observers would make internal attributions when affect and actions were consistent (liked--good actions; disliked--bad actions) and make external attributions when they were inconsistent (liked--bad actions; disliked--good actions). Affect was manipulated through bogus attitude
similarity (dissimilarity) and by having subjects view the confederate acting in a considerate (rude) manner. To assess causality, subjects were asked to indicate the extent to which a confederate's videotaped performance on a game was an accurate indicator of the person's ability. Their results confirmed the hypothesized interaction and there was no main effect of liking or performance. A second experiment conceptually replicated these results by showing that the same prosocial behavior was attributed internally when the target was liked and externally when disliked.

Dobbins and Russell (1986) conducted two studies to test the hypothesis that affect biases attributions of performance in work settings. They applied Green and Mitchell's (1979) two-stage attributional model to the investigation of the biasing effects of subordinate likeableness on leader attributions for poor subordinate performance. In Study 1, Dobbins and Russell (1986) used written vignettes to manipulate the cause for poor performance (internal vs. external) and likableness of subordinate. Ascriptions of causality were assessed with two questions that asked subjects to indicate the extent to which performance was caused by factors internal and external to the subordinate. Their results did not support the hypothesis that liking influenced attributions, but they did show that leader's responses were influenced. Leaders were more inclined to punish and less inclined to support a disliked subordinate than a liked subordinate.
One reason Study 1 did not produce the hypothesized results may have been because the affect manipulation (an eight-item adjective description) did not produce the intensity of affective reaction required for its operation. In other words, the manipulation may have not been powerful enough to enact an affective bias. As pointed out by Dipboye (1985), face-to-face interaction produces more auditory and visual cues and therefore has the capacity to evoke stronger liking or disliking for a ratee.

To overcome this limitation, Study 2 was conducted in a field setting. Dobbins and Russell (1986, Study 2) had 98 leaders describe (a) an incident of poor subordinate performance, (b) the attributions they made for the poor performance, (c) the corrective actions they took, and (d) their liking for the subordinate. Their results supported the hypothesis that attributions were related to affect. When the subordinate was disliked, leaders were more apt to make internal attributions for the poor performance and to respond more punitively.

In summary, although only two studies were found, they both reported results supporting the notion that affect influences rater attributions regarding ratee performance. Specifically, good (bad) actions of liked people were attributed internally (externally) and good (bad) actions of disliked people were attributed externally (internally).
SUMMARY AND HYPOTHESES

A much neglected area of research in organizational behavior has been the relationship between affect and raters' formal and informal evaluations of ratees. The present study was designed to examine the effects of affect on leader evaluations of subordinates and the cognitive mechanisms that mediate these effects.

A general model was derived that described a process by which affect may influence evaluations. According to the model, affect influences the initial classification such that stimuli may be categorized as evaluatively positive or negative. In the present context, leaders would categorize liked subordinates into positively valent (good person) and disliked subordinates into negatively valent (bad person) superordinate categories.

The next stage of the model specifies the relation between category activation and processing of subsequent information. In general, once classification occurs, information is processed in a category-consistent manner. Research in social cognition has shown that raters tend to selectively encode and retrieve information so that they tend to recognize more category consistent behavior. Raters also exhibit response bias tendencies in that they tend to attribute to ratees unperformed, but category-consistent behaviors.

A question that has not been addressed in the performance rating literature is "What is the relationship between inconsistent information on categorization-based processing?". Research from social cognition
and perception has addressed this question. As it turns out, there are a number of factors that determine the outcome. The most important of these seems to be the type of inconsistent information. Recent research has shown that category inconsistent information may be more accurately remembered when it is evaluatively inconsistent (Wyer, Bodenhausen, & Srull, 1984). For example, if a person who was categorized as a "good" leader were to engage in bad behaviors that were evaluatively inconsistent with the category (e.g., bribery, blackmail, extortion), these behaviors would be better remembered than bad behaviors that were descriptively inconsistent with the category (e.g., poor policy decisions or indecisiveness on critical issues).

The present study used affect to create conditions that were evaluatively inconsistent. This was accomplished by having leaders observe the performance of liked and disliked subordinates who exhibited both good and bad performance behaviors. Similar to previous process-oriented studies, a recognition measure was used to assess subject memory for the inconsistent and inconsistent behaviors. This measure also contained good and poor foil items. Whereas previous performance rating studies had descriptively inconsistent foils (e.g. Larson et al., 1984), the present study used foils that were evaluatively inconsistent. Thus, for a behavioral rating questionnaire four types of items were included: (1) good behaviors that were present (true positives); (2) good behaviors that were absent (false positives); (3) poor behaviors that were present
(true negatives); and (4) poor behaviors that were absent (false negatives).

Based upon the affective-based model and research examining inconsistent information on categorization-based processing, predictions are derived concerning the impact of affect on leader processing of subordinate performance-related information. In addition to influencing process measures, affect has been shown to influence formal evaluations in the form of global performance ratings and informal evaluations in the form of attributions and expectancies. The next section contains predictions relating to the influence of affect on information processing. After this, hypotheses concerning the impact of affect on formal and informal outcome variables are presented.

**Process Measures**

A basic aspect of categorization theory is that once a stimulus has been classified, the prototypical attributes of that category get tagged to the instance (Fiske & Taylor, 1984). This inferred knowledge provides perceivers with a perspective from which to develop expectancies regarding the target's future behavior. Therefore, if affect influences the categorization process, differential performance expectations should result. This prediction is stated in Hypothesis 1.

**Hypothesis 1:** Leaders will expect better performance from liked subordinates than from disliked subordinates.

According to categorization theory, once a stimulus has been classified, subsequent information should be encoded and retrieved in a
manner consistent with the category (Fiske & Taylor, 1984). However, for the present study, it is hypothesized that leaders will be more accurate for inconsistent information. This prediction is made for two reasons. First, it is assumed that the affect manipulation will create conditions where the performance behaviors are perceived as evaluatively inconsistent with the prime (e.g., leaders of disliked subordinates will perceive good performance behaviors as evaluatively inconsistent). Past research in social cognition has demonstrated that this type of information is better recalled (e.g. Wyer, et al., 1984). Theoretically, when perceiving evaluatively inconsistent information, more associations are formed between behaviors which leads to enhanced memory for the items (Wyer & Srull, 1986). The second reason is that leaders will tend to attribute category consistent behaviors to subordinates that did not occur (i.e., response bias). The accuracy measure employed in the study, \( A' \), is influenced by this tendency and therefore decreased accuracy will result.

**Hypothesis 2:** In responding to a recognition measure, leaders of liked subordinates will be more accurate than leaders of disliked subordinates for poor performance behaviors and leaders of disliked subordinates will be more accurate than leaders of liked subordinates for good performance behaviors.

A standard manipulation to examine process is the timing of category activation: before or after the presentation of stimulus information. The timing of the cue is a clear manipulation of encoding versus retrieval (Taylor & Fiske, 1981). The present study used this paradigm.
Half the leaders received the affect manipulation before viewing performance and the other half received the manipulation after having seen the performance. Hypotheses 3a and 3b pertain to this manipulation.

**Hypothesis 3a:** If selective encoding occurs, leaders receiving pre-observation primes will be more accurate on a recognition measure than leaders receiving post-observation primes.

**Hypothesis 3b:** If selective retrieval occurs, leaders receiving post-observation primes will be more accurate on a recognition measure than leaders receiving pre-observation primes.

It is possible that affect may not influence the processing of information and yet still exert an influence on evaluations of performance. As implied by Dipboye's (1985) model of discrimination in performance ratings, affect may exert an influence at time of rating through an intentional distortion. In other words, a rater may accurately perceive performance information, but intentionally increase or decrease their evaluation of that performance because of liking or disliking for the ratee. To examine this possibility, it is necessary to compare the results from the accuracy analysis with the results of a global performance rating measure. Hypothesis 3c specifies the pattern of results that would occur if affect did not influence information processing, but exerted an intentional distortion.

**Hypothesis 3c:** Leaders will give liked subordinates higher ratings than disliked subordinates but no differences in accuracy across affect conditions will exist.

**Outcome Measures**
The literature reviewed above indicated that global performance ratings, attributions, expectations, and subsequent judgments are influenced by affect. Hypotheses relating to each of these outcomes are derived. For the global performance ratings, studies have shown that affect influences ratings in the form of leniency/severity and halo. (e.g., Tsui & Barry, 1986; Nisbett & DeCamp-Wilson, 1977). Hypotheses 4 and 5 relate to these two effects, respectively.

**Hypothesis 4:** Leaders will be lenient in their performance rating of liked subordinates and severe in their rating of disliked subordinates.

Jacobs and Kozlowski (1985) note that the concept of halo dates back to Wells (1907) and Webb (1915), although Thorndike (1920) is credited with naming it. According to Thorndike, halo refers to the strong tendency by the rater to "think of the person in general as rather good or rather inferior and to color the judgment of the separate qualities by this general feeling, (1920: 25, cited in Jacobs & Kozlowski, 1985). This original definition which is consistent with the postulate that affect influences the categorization process, and with the previous literature (e.g. Nisbett & DeCamp-Wilson, 1977), provides the basis for the next hypothesis.

**Hypothesis 5:** Affect will produce a halo effect as indicated by lower subject standard deviations across performance dimensions. Because no difference is expected between positive and negative affect, both are assumed to produce halo, but at different levels of the rating scale.
Affect

Previous literature reports that affect has a relation to attributions. One study showed that the same good action was attributed internally if the person was liked and externally if the person was disliked (Zadny & Gerard, 1974). A second study showed that poor performance was attributed externally if the person was liked and internally if the person was disliked (Cardy & Dobbins, 1986). These results led to the following predictions.

**Hypothesis 6:** Leaders will make more internal (external) attributions when the subordinate is liked (disliked) and performance is good.

**Hypothesis 7:** Leaders will make more internal (external) attributions when the subordinate is disliked (liked) and performance is poor.

Once subjects make an evaluation or judgment about a person, later judgments are based on the initial judgments (Lingle & Ostrom, 1979; Wyer et al., 1984). These results suggest that leader judgments concerning future subordinate performance should be highly influenced by the leaders evaluation of the subordinate's prior performance. Hypothesis 8 is based on this premise.

**Hypothesis 8:** Leaders will have higher performance expectations for subordinates receiving higher performance ratings.
METHOD

Subjects

Subjects were 103 male and 100 female undergraduate psychology students. Subjects participated in the study individually and received one extra credit point toward their course grade for voluntary participation.

Stimulus Materials

Videotapes. Two sets of three one-minute speeches were prepared. The speeches were created from Three Thematic Apperception Test cards. One set of speeches was designed to reflect a creative (good) performance and the other set was designed to depict an uncreative (poor) performance. This was accomplished by varying the quality of the speeches on three creativity dimensions: flexibility, elaboration, and originality. For example, flexibility is defined as the ability to change perspectives (see Appendix A). In the good performance condition, subjects provided three perspectives for each speech but in the bad performance condition, subjects provided only one perspective per speech. Originality was defined as the ability to produce novel associations (see Appendix A). In the good speech confederates made interpretations and gave responses that were novel but in the poor speech confederates just described the contents of the pictures. Elaboration consisted of two parts: (a) the provision of enough detail to communicate a concept, but (b) not too much detail so that the response is not mundane (see Appendix A). In the poor performance condition, confederates talked at length about trivial de-
tails. In the good performance condition, an attempt was made to satisfy both parts of the elaboration definition.

To keep the good and poor performance constant, each of the four confederates recited the same material for the good and poor speeches. A pilot test of the videotapes showed that subjects perceived the manipulation as intended. Mean ratings on a nine-item measure designed to assess the three dimensions of creativity were 66.3 (SD = 7.61) and 45.2 (SD = 6.49) for the good and poor conditions respectively. A difference this large is significant beyond the .001 level.

Training Materials. A five page document on creativity was used for the training materials. The document was developed with the goal of maintaining a realistic pretense and included three main learning points: (1) a definition of the characteristics of creativity (i.e., flexibility, originality, and elaboration); (2) identification and discussion of cognitive barriers to creativity (two exercises were used to illustrate this point); (3) the development of creativity through the use of personal analogies (see Appendix A).

Design

The experimental design was a 2 x 2 x 2 (affect x performance x time of affect manipulation) completely randomized, between subjects factorial. To produce the eight cells, affect (liking vs. disliking) was crossed with performance (good vs. poor) and timing set (pre-observation vs. post-observation). Each cell contained at least 19 subjects and no cell contained more the 21 subjects. In an attempt to
control for influence of affect, neutral control groups were used. The 20 subjects in the good performance condition and the 21 subjects in the poor performance condition were not exposed to the affect manipulation.

Independent Variables

Affect. Affect was manipulated by providing subjects with bogus attitude information about the confederate. Social psychological research has demonstrated that knowledge of another person's attitudes has an impact on affect (Byrne, 1971). People tend to like others with similar attitudes and dislike others with dissimilar attitudes. The present study, unlike Byrne's research, controlled for the intensity of affect. All subjects completed a 12-item attitude scale that was anchored with 1=strongly disagree and 7=strongly agree (see Appendix B).

This scale was used to manipulate liking and disliking. To produce liking, the confederates' attitudes were constructed to be similar to the subjects' attitudes in direction and strength. Eight of the 12 items were in the same direction and were either the same strength or within one scale value. For example, if a subject indicated "strongly agree" for attitude toward safety belt law, the confederate's response was the same or "agree". For two of the 12 items, the confederate's responses were in the same direction but varied by two levels. For example, if the subject indicated "agree", the confederate indicated "neutral". Finally, two items were opposite in direction. For example, if the subject indicated "agree" the confederate indicated "disagree".
To produce disliking, the confederates' attitudes were constructed to be different from the subjects in both direction and intensity. Eight of the 12 items were in the opposite direction as the subject. Of the remaining four items, two responses were the same as the subjects and two responses differed by one level. Care was taken when creating the bogus surveys to capture the gist of the intended affective manipulation, but subject responses were not duplicated exactly nor made to appear exactly the opposite.

In the pilot study subjects were asked to guess the experimental hypotheses. It was found that subjects were suspicious of the manipulation when it was either too similar or too dissimilar to their attitudes. For this reason, care was taken to capture the gist of the intended manipulation, but not to create manipulations that were exactly the same or exactly different. Other than suspicions regarding the attitude manipulation, subjects were not able to discern the intended purposes of the study.

**Timing Set.** Of the 203 subjects participating in the study, eighty received the affect manipulation before they observed confederate performance (pre-observation prime), eighty-two received the affect manipulation after they viewed subordinate performance (post-observation prime), and forty-one subjects (21 in the poor and 20 in the good performance condition) did not receive the affect manipulation. The affect manipulation was used to prime the superordinate category of "good or
positive" subordinate in the similar condition and "bad or negative"
subordinate in the dissimilar condition.

Performance. Performance was manipulated by randomly assigning subjects
to a good or poor performance condition. Subjects in the good perform-
ance condition viewed the set of creative speeches and subjects in the
poor performance condition viewed the set of uncreative speeches.

Dependent Variables

Interpersonal Judgment Scale. The interpersonal judgment scale (IJS)
developed and used extensively by Byrne (1971) was employed as the pri-
mary indicator of affect. Two items from this 9-point scale were summed
to indicate subject affect toward the confederate: (a) how much do you
like the person and (b) would you work with the person in another ex-
periment. The scale anchors were 1=dislike and 9=like. Byrne (1971)
reported reliabilities in the .80's for this two-item measure (see Ap-
pendix C).

Task Performance Expectations. This measure contained three questions
designed to tap subject expectations for confederate task performance
(see Appendix D). For example, subjects were asked to indicate (using
a nine-point scale where "1= Likely" and "9=Unlikely"), "How likely is
it that the subordinate will perform poorly on the task?".

Behavior Recognition Measure. The behavior recognition measure con-
sisted of 20 items. The measure consisted of 10 behaviors that were
performed by the confederate and 10 behaviors that were not performed.
The 10 behavioral items that were not performed were the same in both
Affect

performance conditions. Five of these were good performance behaviors (false positives) and five were poor performance behaviors (false negatives). An example of a false positive was "Subordinates summarized the major points" and example of a false negative was "Subordinate twirled hair more than twice per speech".

The 10 behavioral items that were performed by confederates varied slightly in the ratio of good and poor performance items. In the good performance conditions, six behaviors were good and four were poor. The poor performance condition had two items reversed so that there were six poor and four good performance behaviors. "The subordinate changed viewpoints 2 or more times per speech" was an example of a true positive item and "The subordinate began each speech without considering different possibilities" was an example of a true negative item (see Appendix E and F).

The difference in ratios for the good performance (5 FP to 5 FN to 6 TP to 4 TN) and poor performance (5 FP to 5 FN to 4 TP to 6 TN) conditions creates a possibility for set size effect to confound the results (Hastie, 1980; Wyer & Gordon, 1982). This was not considered a problem in the present study for two reasons. First, the differences in ratios are small. Second, the differences that do exist represent the content of the videotapes. In the good tape there were more good behaviors and in the bad tape there were more bad behaviors.

Items for the behavioral recognition measure were selected in two stages. In the first stage, pilot study subjects watched the videotaped
speeches and recorded up to five good and five poor performance behaviors for each one-minute speech producing 331 items. From this pool, the experimenter and four research assistants selected the most frequently represented items, checked their valence, and assigned them to the different performance conditions. These were the true positive and true negative items.

In the second stage, the experimenter and each of the four research assistants generated five examples of good performance (false positives) and five examples of poor performance (false negatives) behaviors that were not included on the tape. From this pool of 50 items, five were selected to be false negatives and five were selected to be false positives. The items selected were (a) the most frequently represented and (b) the ones that a majority decision was reached concerning valence.

Global Performance Ratings. The global performance evaluation form was designed to obtain subjects' overall impression of the confederate's performance. It contained 12 items (anchored on a 9-point scale with 1 = strongly disagree and 9 = strongly agree) that asked subjects about confederates' creativity, judgment, commonsense, cooperativeness, motivation, ability to work well with superiors, and ability to learn (see Appendix G).

Attributions. Attribution statements solicited subject perceptions of the causes of confederate performance. The six statements asked subjects to indicate (on a nine-point scale anchored with "1 = Very little influence" and "9 = Strong influence") the extent to which different causes
Affect

were responsible for confederate performance (see Appendix H). Three statements pertained to causes within the subordinate (e.g., The subordinate's ability), and three to causes external to the subordinate (e.g., The difficulty of the task).

Global Performance Expectations. This was a three-item measure designed to tap subject global expectations regarding the confederate's future performance (see Appendix I). For example, subjects were asked "How well do you think the subordinate would perform on other creative tasks?". They indicated their responses on nine-point scale anchored with "1 = Very Poor" and "9 = Very Well".

Secondary Affect Scale. A second affect measure was also used to assess affect. It consisted of eight items drawn from an impression scale published by Curtis and Miller (1986). An example was "How friendly was the subordinate?". All items used a nine-point scale (see Appendix J).

Procedures

Subjects either signed-up for participation or were recruited by phone from a pool of introductory psychology students. Subjects were run one at a time and paired with a confederate of the same gender to form a dyad. The confederate always assumed the role of subordinate. The study was presented to subjects as an investigation of the ability to teach creativity and as an examination of the relationship among creativity, personality characteristics and leader-member relations. Upon arrival, all subjects were provided with a description of the study.
and completed an informed consent form. Confederates and subjects always sat directly across from each other.

Preobservation Category Prime Condition. After informed consent was obtained, the dyads completed a 12-item attitude survey. Roles were assigned after the survey was completed. The experimenter stated that the study required one person to assume the role of subordinate and one person to assume the role of leader. To enhance the credibility of the study, participants were asked if they preferred a particular role. Three subjects requested the subordinate role. When this happened, the session was still run but the data were thrown out. Subjects had no role preference about 98% of the time. When this occurred, the experimenter assigned the subject to the role of leader and the confederate to the role of subordinate.

Once roles were assigned, the confederate was asked to step out into the corridor. At this time the subjects were told that their job was to study the creativity materials for ten minutes, train the subordinate for five minutes, and then evaluate the subordinate's subsequent performance on three one-minute speeches. Subjects were then given an opportunity to ask and have answered any questions pertaining to their task. After the questions were answered, the experimenter left the room.

After ten minutes the experimenter returned. If subjects were not done, they were given five minutes to finish reading. Subjects were then brought to a separate room and seated directly across from subordinates.
The experimenter explained the task to the confederate, set a timer for five minutes, and then exited the room.

For the training session, subjects were told to emphasize the major points that were made in the training materials. They were given a one page outline to help structure the training session and were permitted to refer back to the training packet if they needed more information. The confederates were instructed to minimize talking and the expression of affect (smiling, laughing or frowning), but to pay attention to what the subject was saying. In addition, all confederates asked subjects the same two questions about the information presented in the training session.

During the time the confederate was being trained, the experimenter randomly assigned subjects to the affect condition and then created the bogus attitude survey for the confederate. Up until this time, the experimenter was blind to the affect condition.

The first timing set manipulation (pre-observation prime) occurred next. After the five-minute training session, the experimenter returned and passed out the completed attitude surveys. It was explained to participants that in order for them to get to know each other in the limited time remaining, they were to present their responses to the attitude survey. They were instructed to take turns reading the attitude items and to indicate their responses to each item. Questions pertaining to the procedures for responding to the attitude survey were answered and then the experimenter left the room.
The confederate became aware of the affect condition after the responses to the first attitude item were presented. If the response was the same (the opposite) as the subject’s, it was a liked (disliked) condition. Confederates were trained to act in congruence with the manipulation. If it was a liked condition, they made frequent eye contact, smiled, leaned forward, nodded their heads in agreement. If it was a disliked condition, confederates were instructed not to smile or make eye contact, to lean back in the chair, and to use a sharp tone of voice. This was done to increase the potency of the manipulation.

After the attitudes were presented, the experimenter returned. He then told participants that previous research showed that leaders tended to give off nonverbal cues that influenced subordinate performance. And, to prevent this from happening, the confederate’s performance was to be videotaped in another room. The confederate was then asked to step out into the corridor and the subject was given an article to read from the Smithsonian magazine about lynxes. As the experimenter exited the room, he removed a videotape from the VCR stationed at the front of the room.

After five minutes the experimenter returned, placed the tape in VCR and instructed the subject to do the following: complete the IJS and task expectancy measure, view the performance on videotape, and then continue reading the lynx article. The performance manipulation occurred at this time. The subject was randomly assigned to view either the good or poor performance tape. To prevent expectancy effects, the
experimenter was blind to the performance manipulation. Fifteen minutes later, the experimenter returned and escorted the subject to a third room. The subjects were then told to complete the behavior-based recognition measure, followed by the remaining dependent measures. The experimenter returned when the subjects had completed all the dependent measures. Subjects were then given an opportunity to ask questions about the study and were partially debriefed. They were fully debriefed by phone after the data for the experiment was collected.

**Postobservation Category Prime Condition.** The procedures for subjects in the post-observation prime condition were slightly different in terms of sequence. Instead of manipulating affect immediately after the training session, the dyads presented their attitudes after the subject had viewed the confederate's videotaped performance. Subjects in this condition then completed the IJS scale five minutes after this interaction. The only other difference was that the bogus attitude scale was created while the subject viewed the videotaped performance.

**Neutral Condition.** Subjects assigned to the neutral condition were exposed to the same procedures with one exception. They were not given the affect manipulation.
RESULTS

The data were analyzed in four stages. The first stage considers some characteristics of the data and the results from the manipulation checks. The effectiveness of the manipulations were assessed using analysis of variance (ANOVA) procedures. Significant ANOVA's were followed by simple effects and Tukey post-hoc procedures. This analytic approach ensures that the Type I error rate remains at the nominal level (Stevens, 1985).

The second stage employed signal detection theory procedures to the analysis of the behavioral recognition measure. The behavioral recognition data were analyzed with affect split into three levels: like, neutral, and dislike. The ranges on the IJS scale were 15-18, 12-14, 6-11, for like, neutral, and dislike affect conditions, respectively.

The third phase examined the outcome variables using the same analytic strategy as in Phase 1. ANOVA's were conducted with corresponding follow-up procedures.

The fourth stage presents a more general view of the influence of affect on formal and informal evaluations. This approach, in the form of a Path Analysis, makes use of the linear properties of all measured variables (Pedhazur, 1982). To aid the reader, an overview of the causal modeling approach is provided. Following this, a causal model representing the direct and indirect effects of the independent (exogenous) variables on the dependent (endogenous) variables, is presented and analyzed.
Phase 1

In this first phase of the analysis, the manipulation check items were analyzed with ANOVA and the corresponding follow-up procedures.

Affect Manipulation

Byrne's interpersonal judgment scale (IJS) was used to measure the impact of the affect manipulation. Differences on the IJS sums were assessed with a 2 x 2 x 2 ANOVA which included the affect manipulation (attitude similar vs. attitude dissimilar), performance (good vs. poor), and timing set (pre-observation vs. post-observation) as between subjects factors. The 162 subjects who received the affect manipulation were included in this analysis. The results of this analysis are presented in Table 1. Inspection of Table 1 indicates that the affect manipulation had the intended effects. However, this effect was qualified by an interaction between affect and timing set. Figure 4 presents a plot of the four cell means involved in the interaction. Post hoc Tukey tests were conducted to examine the nature of the interaction. The critical value for studentized range (Q) distributions with 4 and 40 degrees of freedom is 3.79. The comparison between affect conditions at pre-observation was significant, $Q (4,40) = 7.15, p < .05$. However, the comparison post-observation was not statistically significant, $Q (4,40) = 3.61, p > .05$. The comparisons across time for each of the affect conditions were not significant. The $Q$ values for the similar and dissimilar conditions were 2.5 and 1.7, respectively, $p$'s > .05.
Thus, the interaction was due to the significant difference between affect conditions at pre-observation but not at post-observation.

To examine differences among confederates in influencing subject affect, a 2 (attitude similar vs. attitude dissimilar) x 4 (confederate) by 2 (timing set) ANOVA was conducted on the IJS. The results of this analysis are presented in Table 2. As indicated in Table 2, four significant effects were detected. Two of them were the same as the previous analysis: the main effect of affect and the affect by time interaction. Two other effects were also significant: a main effect of confederate and an interaction between affect and confederate.

The interpretation of the main effects is qualified by the two interactions. The affect by timing set interaction is consistent with what was reported above and is not discussed further. The confederate by affect interaction was explored further. Figure 5 present a plot of the cell means for the affect by confederate interaction. Descriptive statistics for the two-way interaction are presented in Table 3. Simple effects analyses at each level of the affect manipulation showed that confederates differed in the dissimilar condition $F (3, 144) = 10.21, p < .05$, but not in the similar condition, $F < 1.0$. The results from post hoc Tukey tests conducted within the dissimilar condition showed that all comparisons involving Confederate 1 were significant beyond the .05 level but that no other reliable differences were detected among confederates. Comparisons within confederates showed that only Confederate
produced a reliable difference between affect conditions, $Q (20) = 9.02, p < .05$.

Overall, the results showed that the affect manipulation produced the intended effects. However, there were two major problems with the data. First, the timing set interaction and Tukey tests showed that the post-observation prime was less effective than the pre-observation prime. Second, the confederate by affect interaction showed that confederates were not equal in influencing subject affect towards them. Simple effects tests and post hoc tests showed that Confederate 1 produced greater disliking than the other confederates. And, Confederate 1 was the only person to produce significant differences across the two levels of the affect manipulation. For these reasons, and, because the focus of the study is to examine the process by which affect influences evaluations, a decision was made to use subjects' responses to the IJS for creating groups that differed in affect.

Three affect groups were created: liked, neutral, and disliked. Because of the decision to drop the manipulated affect factor, the 41 subjects that did not receive the affect manipulation were included in the created affect groups. Therefore, a total of 203 subjects were available for subsequent analyses. The groups were split so that there was approximately equal number of subjects in each group. The IJS scores and sample sizes for the liked, neutral and disliked groups were 9.66 ($n = 66$), 13.15 ($n = 68$) and 16.52 ($n = 67$), respectively. In the original design, equal numbers of confederates were assigned to each cell.
The use of created affect groups means that confederates will not be equally represented in all the cells.

All subsequent analyses used the created affect groups in lieu of the manipulated affect variable. The data were also analyzed with the created affect groups. The results were typically not significant, (most \( p \)'s ranged from .10 to .20) but the means were always in the same direction.

The correlations among manipulated affect, measured affect, and IJS responses for the timing set conditions are presented in Table 4. As can be seen in Table 3, two of the three correlations were greater at pre-observation than at post-observation. For example, the correlation between manipulated affect and IJS was .55 at pre-observation but was only .29 at post-observation. This indicates again that the post-observation condition was less successful at influencing affect than the pre-observation condition.

A 3 x 2 x 2 ANOVA with the three created levels of affect, performance, and timing set as between subject factors was conducted on the IJS. The results from the analysis are presented in Table 5. As indicated, there was a main effect for affect and no other effects were significant. Three post hoc Tukey tests showed that all groups differed significantly from each other, all \( p \)'s < .05. The cell means from this analysis are also presented in Table 5.

Finally, based on the results of the affect manipulation, a decision was made not to include the timing set factor in subsequent analy-
Affect

sis. This was done for two reasons. First, as the analysis of the affect by time interaction showed, the effect of the manipulation was greatly diminished at post-observation. Second, the correlational analysis presented in Table 4 supported the contention that timing set was confounded with affect. The correlations between measured affect and IJS and between manipulated affect and IJS were much lower at post-observation than at pre-observation.

Performance Manipulation

The impact of the performance manipulation was assessed with a single item. The question asked respondents to indicate their agreement with the statement that the subordinate had creative ability. The item ranged from 1=strongly disagree and 9=strongly agree. A two-way ANOVA, with performance (poor vs. good) and confederates as factors, indicated a significant effect for the performance manipulation. Table 6 includes the results from the analyses. As indicated, there was a main effect of the performance manipulation (\(\omega^2\) squared equal to 19.2 percent) and no other effects were significant. The means for the poor and good performance conditions were 5.42 (SD = 1.84) and 7.08 (SD = 1.52), respectively.

Phase 2

Hypothesis I.

Hypothesis I stated that leaders would expect better performance from liked subordinates than from disliked subordinates. To test this hypothesis, two data analytic strategies were used: Analysis of variance
and a Pearson product moment correlation. The dependent variable was the task expectation measure. The intercorrelations among the three items were greater than .45 so the items were combined to form a composite. The first was a one-way ANOVA with the three created affect groups as the between groups factor. The results from the analysis are presented in Table 7. As indicated, there was a main effect for the affect variable. Post hoc Tukey tests showed that the liked group differed from both the neutral group, $Q(3, 65) = 6.26, p < .05$, and the disliked group, $Q(3, 65) = 8.06, p < .05$. No other comparisons were significant. Descriptive statistics for the three cells are also presented in Table 7. A Pearson product moment correlation indicated that a significant relationship existed between affect and the task expectation measure, $r = .42, p < .001$. These results provide support for Hypothesis 1.

**Hypothesis 2**

Hypothesis 2 predicted that affect would interact with item type (good behavior vs. poor behavior) to influence accuracy. Leaders of liked (disliked) subordinates were predicted to be more accurate for poor (good) behaviors. The hypothesis was examined using the non-parametric accuracy index, $A'$. The computing expression for this index is given by Grier (1971). According to Grier, the advantage of $A'$ is that it preserves the sensitivity and bias that is inherent in the data.

A $2 \times 3$ ANOVA that included item type as a repeated measures factor and affect as between subjects factor was conducted on $A'$. Table 8 contains a summary of this analysis. As indicated by inspection of Table
8, the prediction was not supported. Subject accuracy was not influenced by the affect by item type interaction. The analysis did reveal a significant main effect for item type. Positive behaviors were more accurately recognized than negative behaviors; the accuracy means were .710 and .663, respectively.

The analysis of the accuracy measure was collapsed across performance conditions. As noted above, the proportion of items differed in the good and poor tapes such that there were six true positives and four true negatives in the good performance measure and four true positives and six true negatives in the poor performance measure. To determine if there were differences between performance conditions, a 2 x 3 x 2 ANOVA was conducted on $A'$ that included item type as a repeated measures factor and affect and performance as between groups factors. The results from this analysis are presented in Table 9. As can be seen in Table 9, affect still do not produce an effect on accuracy. There was, however, an interaction between performance and item type. Post hoc Tukey tests showed that when the performance was good, positive items were more accurately remembered than negative items, $Q \ (3,100) = 6.50, p < .05$, but that no significant difference existed between items when the performance was poor. The comparison between poor and good performance conditions for the negative items showed that accuracy was less in the good performance condition, $Q \ (3,100) = 4.21, p < .05$; however, the difference between the poor and good conditions for the positive items was not significant.
Another analysis was conducted on A' using only items that were common across the good and poor performance conditions. The design was a 2 x 3 with item type as a repeated measures factor and affect as a between groups factor. The results were similar to the preceding analysis on A'. There was a main effect for item type, $F(1,199) = 11.96$, $p = .001$, and no other effects were significant.

Even though affect did not influence accuracy, it is still possible for affect to produce response bias. This possibility is addressed using three lines of evidence: item frequencies, confidence ratings, and $B''$ (a Signal Detection measure of response bias). The first evidence was the results of a 2 (false positive vs. false negative) x 3 (affect) ANOVA conducted on the 10 non-presented behavioral items. Item type in this and all subsequent analyses was a repeated measures factor and affect was a between groups factor. Table 10 presents the results from this analysis.

As revealed in Table 10, the main effect of item type and the affect by item type interaction were significant beyond the .05 level. Controlling for item type, simple effects analyses detected significant differences for both positive items, $F(2,199) = 4.51$ $p < .05$, and negative items, $F(2,199) = 5.45$ $p < .05$. Post hoc Tukey tests showed that liked groups differed from the disliked groups at each level of item type. The comparisons involving the neutral groups were not significant. Figure 6 presents a plot of the cell means. As indicated, subjects attributed behaviors in a category consistent fashion. When the items were
false positives, subjects attributed more behaviors to confederates as affect increased, and, when the items were false negatives, subjects attributed less behaviors as affect increased.

The second line of evidence bearing on the analysis of response bias comes from the confidence ratings subjects provided for each behavioral recognition item. As in the preceding analysis, only the 10 false positive and false negative items were used. Item type was a repeated measures factor and affect was between groups factor. The confidence rating measure was derived with the following procedures. First, the confidence ratings were summed for the false positive and for the false negative items that subjects attributed to confederates. The confidence scale ranged from 0% to 100% and there were five items for each item type so that a total of 500 confidence units were possible. Second, the confidence sums for each item type were divided by 500 yielding a percent confident index (PCI) that ranged from 0 to 1.0. For example, if a subject attributed all five false positive items to a confederate and indicated 100% confidence for each item, then the PCI would be 1.0. On the other hand, if none of the false positive items were attributed to the confederate, then the PCI would be zero. Table 11 presents the results from a 2 (item type) x 3 (affect) ANOVA on the PCI.

As indicated in Table 11, the results were similar to the findings from the frequency analysis conducted above in that subjects responded in a category consistent manner. Subjects were more confident for pos-
itive items as affect increased and more confident for negative items as affect decreased. The difference between the highest confidence means for the positive and negative items (.313 and .279, respectively) was not significant.

Signal detection theory procedures can also be used to examine response bias. The nonparametric index, $B''$, is an indicator of subjects' decision criteria (Grier, 1971) and ranges from 1.0 to -1.0. The results from a 2 (item type) x 3 (affect) ANOVA on $B''$ are presented in Table 12. As indicated, the main effect of item type and the item type by affect interaction were significant. This result is consistent with the analyses of the frequencies and the confidences presented above. Figure 7 depicts the item type by affect interaction from the analysis of $B''$.

The interpretation of Figure 7 is counterintuitive. Positive values reflect a bias toward reporting that a behavior did not occur, while negative values reflect a bias toward reporting that a behavior did occur. In terms of decision criteria, subjects were less biased when the behaviors were negative and the confederate was liked and when the behaviors were positive and the subordinate was disliked. This analysis produced results comparable to the previous indicators of response bias: subjects responded in a category consistent fashion.

At face value, the results from the accuracy index and response bias indicators appear incongruent. More specifically, because of the response bias effect, there should have been a decrease in accuracy for
the category consistent conditions. The effect of a decrease in accuracy for category consistent conditions may not have occurred if subjects were more accurate for the true positive and true negative items in a category consistent fashion. If this results occurred, the increase in accuracy for category consistent behaviors would have offset the response bias effect. To test this proposition, a 2 x 3 ANOVA was conducted on just the true positive and true negative items. The results from this analysis are presented in Table 13. As indicated in Table 13, this proposition was supported. When the items were positive, the proportion correctly identified increased as affect increased, and when the items were negative, the proportion correctly identified decreased as affect increased.

The results from Phase 2 provided support for Hypothesis 1: task expectations were influenced by affect. The results did not support Hypothesis 2: leaders of liked (disliked) subordinates were not more accurate for negative (positive) items. There was a category consistent effect for performance and item type. Positive items were more correctly identified when performance was good and negative items were more correctly identified when performance was poor. Subjects exhibited a response bias in that they tended to attribute foils to confederates in a category consistent fashion. Apparently, the expected decrease in accuracy produced from response bias did not result because of a category consistent increase in accuracy for true positive and true negative items. evaluation.
Hypotheses 3a and 3b

Hypotheses 3a and 3b were concerned with assessing the relative impact of selective encoding versus selective retrieval. These hypotheses could not be tested due to the confounding of affect and timing set. For an assessment of retrieval selectivity, subjects should not have any affective orientation toward confederates. This condition was not met.

Hypothesis 3c.

According to Hypothesis 3c, it is possible that leaders may not be influenced in their processing of information but that an intentional distortion may occur on a global rating measure. To evaluate this hypothesis, the pattern of results from the accuracy measure and the global rating measure must be compared. Therefore, this hypothesis is addressed in the next section.

Phase 3

Hypothesis 4

Hypothesis 4 predicted a leniency/severity effect on performance ratings as a result of affect. Subjects were expected to be lenient with liked and strict with disliked confederates. A 2 (good performance vs. poor performance) x 3 (disliked vs. neutral vs. liked) between subjects ANOVA conducted on the global performance rating measure supported the hypothesis. Table 14 contains a summary of the analysis. As can be seen in Table 14, all effects were all significant. The cell means for the six conditions are plotted in Figure 8.
To examine differences among means a simple effects analysis was done for each performance level. Since both were significant, six post hoc Tukey-tests were conducted, three for each performance level. For the good performance condition, the liked group was rated significantly higher than both the disliked and neutral conditions. A comparison between the latter two indicated no significant difference. These results indicate that for good performance, liking produced a leniency effect but disliking did not produce a severity effect. The comparisons in the poor performance conditions yielded the opposite results. The disliked group was rated more severely than either the neutral or liked group. The comparison between neutral and liked groups was not significant. This indicated that for poor performance, disliking produced a severity effect but liking did not produce a leniency effect.

Hypothesis 3c can be now be considered. The information processing measure indicated that accuracy was not influenced by affect; yet the global rating measure showed an effect. Taken alone, this may qualify as support for Hypothesis 3. However, it was found that subjects were biased in a category consistent fashion when it came to attributing non-presented behaviors. Therefore, in light of these results, a pure interpretation is not possible.

Hypothesis 5

Hypothesis 5 predicted a halo effect for positive and negative affect. There are at least four different methods of examining halo: (1) high intercorrelations among dimensions, (2) factor analysis with
fewer factors indicating greater halo, (3) statistical removal of the effects from a global rating, and (4) variance of rating dimensions; smaller variances indicate greater halo (Saal, Downey, & Lahey, 1980; Jacobs & Kozlowski, 1985). Of these four, the first three methods were not suitable for the present study and are not discussed. The fourth method would indicate halo if the variances of the dimensions on the performance ratings were less in the positive and negative affective conditions. A one-way ANOVA on subject standard deviations for rating dimensions indicated affect did not have a significant effect on halo, \( F (2,200) = 1.769, p = .173 \). Means for the disliked, neutral, and liked conditions were 1.67, 1.61, and 1.49, respectively.

Hypotheses 6 and 7

Hypotheses 6 and 7 predicted an interaction of affect and performance. The external attribution measure was originally going to be reverse scored and added to the internal measure. This was consistent with previous research that viewed attributions as unidimensional, and argued that internal and external attributions should be combined into a composite index (e.g., Dobbins & Russell, 1986). In the present study, two lines of evidence suggested that internal and external attributions were not a unidimensional construct. The first evidence came from the reliability estimates. The reliability for the composite index was .07. The separate reliabilities for the internal and external attribution measures were .73 and .54, respectively. Therefore, the types of attributions were analyzed separately.
A factor analysis on the attribution measures also suggested that internal and external attributions reflect different dimensions. A principal components analysis, using maximum likelihood estimates to abstract factors and oblique rotation to interpret them, produced two factors that accounted for 61% of the variance. The factor pattern matrix indicated that the three internal items loaded on the first factor (factor loadings ranged from .70 to .67); two external items loaded on the second factor (factor loadings were .64 and .57); and, that one external item loaded on the first factor (loading = .35). This analysis clearly produced two interpretable factors. One anomaly was the loading of an external attribution on the internal factor. This question pertained to the difficulty of the task.

Hierarchical regression analyses were conducted on the two attribution indices. The results indicated that neither hypothesis was supported. The addition of the interaction term did not contribute significantly to the $R^2$ for either internal or external attributions. The analysis of the external attribution measure did not detect any significant effects. There was a significant main effect for affect. The $R^2$ for internal attributions was $0.031$, $F(2,199) = 3.54$, $p = 0.031$ and the standardized $\beta$ for affect was $0.149$, $t(199) = 2.135$, $p = 0.034$.

Hypothesis 8

Hypothesis 8 predicted that leader expectations for future confederate performance would be influenced by the performance ratings that leaders gave to confederates, above and beyond the contribution of the
Affect

performance manipulation. This hypothesis was analyzed in two steps. First, a 2 x 3 ANOVA, that included performance and affect as between subjects factors, was conducted on the global expectations measure. The second step is imbedded in the Path Analysis and is addressed in that section. The results from the ANOVA are presented in Table 15.

As indicated in Table 15, the main effects of affect and performance were significant. The interaction term approached significance, \( F(2,196) = 2.25, p = .108 \). The means for the six cells are plotted in Figure 9. Inspection of Figure 9 reveals that the pattern of means resembles those found in Figure 8 for the performance rating measure. The influence of the actual ratings, above and beyond the effects discussed, is considered in the next section.

Phase 3

Hypothesis 4

Hypothesis 4 predicted a leniency/severity effect on performance ratings as a result of affect. Subjects were expected to be lenient with liked and strict with disliked confederates. A 2 (good performance vs. poor performance) x 3 (disliked vs. neutral vs. liked) between subjects ANOVA conducted on the global performance rating measure supported the hypothesis. Table 14 contains a summary of the analysis. As can be seen in Table 14, all effects were all significant. The cell means for the six conditions are plotted in Figure 8.

To examine differences among means a simple effects analysis was done for each performance level. Since both were significant, six post
hoc Tukey tests were conducted, three for each performance level. For the good performance condition, the liked group was rated significantly higher than both the disliked and neutral conditions. A comparison between the latter two indicated no significant difference. These results indicate that that for good performance, liking produced a leniency effect but disliking did not produce a severity effect. The comparisons in the poor performance conditions yielded the opposite results. The disliked group was rated more severely than either the neutral or liked group. The comparison between neutral and liked groups was not significant. This indicated that for poor performance, disliking produced a severity effect but liking did not produce a leniency effect.

Hypothesis 3c can be now be considered. The information processing measure indicated that accuracy was not influenced by affect; yet the global rating measure showed an effect. Taken alone, this may qualify as support for Hypothesis 3. However, it was found that subjects were biased in a category consistent fashion when it came to attributing non-presented behaviors. Therefore, in light of these results, a pure interpretation is not possible.

Hypothesis 5 predicted a halo effect for positive and negative affect. There are at least four different methods of examining halo: (1) high intercorrelations among dimensions, (2) factor analysis with fewer factors indicating greater halo, (3) statistical removal of the effects from a global rating, and (4) variance of rating dimensions;
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Hypothesis 8

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Affect

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Overview of Path Analysis

"Path analysis is a method for explicitly formulating theory, and attaching quantitative estimates to causal effects thought to exist on a priori grounds" (Wolfle, 1980). This definition has two important implications. First, when using path analysis, a researcher must be guided by theory. Second, if the analysis is theory driven and certain limiting conditions are met, causal parameter estimates may be derived. We are all aware of the oft-repeated warning "correlation does not prove causation". With path analysis, the investigative scheme is dictated by the researcher, and the resulting inferences derive from this source. "Path analysis is not a method for discovering causes, but a method applied to a causal model formulated by the researcher on the basis of knowledge and theoretical considerations" (Pedhazur, 1982).
There are four basic types of path models: recursive, block, block-recursive, and nonrecursive. A discussion of the model types is available elsewhere (Wolfle, 1980), and will not be presented here. The recursive model, selected for use in this study, is considered in more detail. A recursive causal model assumes a unidirectional causal flow of influences between variables. It is incumbent upon the researcher to specify this causal order. Two types of variables are used: exogenous variables (independent variables) and endogenous variables (dependent variables). The influence of exogenous variables on endogenous variables is analyzed by regressing the exogenous variables onto the specified endogenous variables. In path analysis, no attempt is made to examine factors influencing the exogenous variables and the relationships among exogenous variables remain unanalyzed. Provided a rationale exists for the causal ordering, a variable can be dependent in one regression analysis and then be independent in a subsequent analysis. In other words, endogenous variables can be used to explain other endogenous variables.

Path analysis makes the same assumptions as ordinary least squares (OLS) regression, (e.g., independence, homoscedasticity, expected value of errors = 0, and residuals uncorrelated with each other and with any other variables in the model). The major advantage of path analysis is that it provides a framework to summarize the problem under study. In the present context, path analysis is used to present a model of the causal effects and intercausal connections of the variables considered.
in Phase 3. Based upon the theoretical and empirical rationale that liking influences cognitions and behaviors, a model depicting this process is presented and examined.

A second advantage of path analysis is that it permits correlations among variables to be decomposed into four types of effects: (1) direct effects, (2) indirect effects, (3) spurious effects, (4) unanalyzed effects. Path coefficients indicate the direct effect of a variable hypothesized as a cause of a variable taken as an effect. Direct effects are estimated by partial regression techniques (Pedhazur, 1982); and, may take the form of either a standardized or a metric regression coefficient.

In addition to providing estimates of direct effects, recursive models allow the researcher to examine the extent to which intervening variables influence the relationships between cause and effect variables. These effects can be estimated by the sum of products of direct causal effects through intervening variables. For example, consider a causal model A --> B --> C. In this model, A has no direct effect on C, but has an indirect effect through B. The indirect effect of A on C through B is estimated by the product of the paths linking A to C.

Correlations can also be decomposed into noncausal effects: spurious and unanalyzed. A spurious effect results when a relationship is influenced by a common cause (e.g., weather temperature influencing the correlation between the amount of ice cream and water consumed on a given
day). Unanalyzed effects result when two exogenous causes are corre-
lated, but no attempt is made to examine the relationship.

**Path Analytic Model**

The construction of the causal model presented in Figure 10 was
influenced by three considerations. First, theory suggested the pres-
entation of the exogenous variables and the intervening influence of task
expectations on performance ratings. Second, logic and theory dictated
the specification of attributions after performance ratings (cf. Smith
and Miller, 1983). The placing of the remaining variables were derived
on theoretical and logical grounds. Third, the paths specified in the
model are made on the basis of both previous concerns, as well as from
knowledge derived from prior analyses.

Path analysis makes use of a correlation matrix to derive parameter
estimates. The matrix of intercorrelations among all variables is pre-
sented in Table 16. The last two rows contain means and standard devi-
ations and the diagonal contains reliabilities.

All direct and indirect effects of this model were estimated and
tested with a program called GEMINI (Wolfle & Ethington, 1985). This
program incorporates the latest developments in path analysis; namely
that of providing standard errors for indirect effects. Originally, only
direct effects were tested for significance and indirect effect were
treated as population parameters, which may not always be correct. Sobel
(1982) derived the asymptotic distribution of indirect effects in re-
cursive causal models using the delta method (Rao, 1973). This devel-
opment has been applied by Wolfle and Ethington into their GEMINI program. In addition to giving the standard errors of indirect effects, GEMINI can print standardized and metric matrixes of direct, indirect, and total effects. Finally, GEMINI provides T-values and probabilities for direct and indirect effects.

Seven regressions were calculated to estimate the causal model, one for each of the endogenous variables. To provide for comparisons among variables, the standardized regression coefficients (BETA's) are presented. The path coefficients included in Figure 10 were obtained from these regressions. Table 17 presents the results of the regression analyses. The last row contains the R²'s for each regression.

The independent variables accounted for significant proportions of variance in all regressions except for the external attribution measure. The largest R² was for the global expectation measure (60.07% of the variance was accounted for by the regression).

Table 18 presents the results from the path analysis. Three matrices are included in the table: direct effects, indirect effects, and total effects. Discussion of each of the matrices is presented in turn. For brevity and clarity, only significant effects are discussed.

**Direct Effects.** The first regression examined the effects of the three exogenous variables on the Task Expectation Measure. Consistent with results presented earlier, there was a significant relation between the subjects' feelings toward confederates and their expectations of confederate task success ($\beta = .425$).
The second regression was conducted on the Global Performance Measure and included the three exogenous and the endogenous (i.e., task expectancy measure) variables as predictors. As expected, the largest effect was for the performance manipulation ($\beta = .448$). Affect had the next largest effect ($\beta = .328$); followed by task expectancy ($\beta = .163$).

The third and fourth regressions were on the external and internal attribution measures and included the three exogenous and the two prior endogenous variables. The regression on external attributions did not produce a significant $R^2$. The performance rating had a direct effect on internal attributions: the better the performance rating the greater the tendency to make an internal attribution.

The fifth regression examined the effects of three exogenous variables and the four preceding endogenous variables on the Global Expectation Measure. The largest effect was for the Global Performance Measure ($\beta = .529$). The next largest effect was from the Internal Attributions Measure ($\beta = .178$). This effect indicated that as the tendency to make internal attributions increased, so did the tendency to expect greater future performance. The performance manipulation had the next largest effect, followed by task expectation.

These results have implications for Hypothesis 8. The hypothesis predicted that leader decisions will be influenced by previous judgments. In the ANOVA discussed in Phase 3, the exogenous variables each had an impact on global expectations. The path analysis replicated this
result. Moreover, consistent with Hypothesis 8, the previous evaluation was strongly related to global expectations.

The sixth regression examined the effects of the same three exogenous and four endogenous variables onto a second measure of affect. The only significant contributor to an $R^2$ of .60 was the previous measure of affect.

**Indirect Effects.** A different strategy is used to structure the discussion of indirect effects. The indirect effects of each variable are considered, beginning with the exogenous variables. The performance manipulation had significant indirect effects on the same three variables. To illustrate the interpretation of an indirect effect, consider the relationship between the performance manipulation and internal attributions. The performance rating is influenced by the performance manipulation ($\beta = .448$); which in turn influences internal attributions ($\beta = .382$). The product of these path coefficients is the indirect effect of the performance manipulation on internal attributions.

The IJS is used in its linear form to represent the influence of affect. Affect did not contribute a significant direct effect to global expectations. At first glance, this would indicate that these types of decisions are independent of affect. The matrix of indirect effects contradicts this interpretation (see Table 18). The indirect effects of affect on global expectations was ($\beta = .278$), which was significant beyond $p = .001$. Applied to a work context, this finding indicates that leader affect toward subordinates may influence their global expecta-
Affectations; not directly, but by increasing task expectations, performance ratings, and internal attributions. Affect also produced significant indirect effects on all remaining endogenous variables except for external attributions. Therefore, in addition to a direct effect on performance ratings, affect had a significant indirect effect through its influence on task expectations.

Task expectations had a direct effect on performance ratings and global expectations. Task expectations also had indirect effects on global expectancies and internal attributions. These results are consistent with a large literature that has examined the influence of expectations on behavior and cognitions (for reviews see Higgins & Bargh, 1987; Jussim, 1986). The remaining indirect effects for the performance rating measure and internal attributions can be discerned from inspection of Table 18.

The results from the path analysis provided support for many predictions made in the study. Moreover, some unanticipated results were brought to light. The most significant serendipitous result pertained to the indirect influence of affect. The results indicated that affect influences global expectations and performance ratings indirectly, through its intervening effects on other endogenous variables. Overall, the model strongly supported the central thesis of study: that the influence of affect on formal and informal evaluations of ratees must be considered by researchers attempting to model the processes involved in a rating task.
DISCUSSION

The present study had two purposes. One purpose was to examine the influence of affect on leaders' formal and informal evaluations of subordinates. The second purpose was to examine the processes by which affect exerts an influence on these evaluations. Affect was defined as the leader's feelings toward the subordinate. These feeling could vary in valence (dislike, neutral, and like) and intensity. An affective-based processing model was developed and hypotheses consistent with the model were derived. The results showed that affect had direct and indirect influences on leader evaluations of subordinates. Response bias was shown to be one mechanism through which these effects occurred.

The next section presents a discussion of the results. Issues pertaining to information processing are presented first, followed by a discussion of the effects of affect on key outcome variables. After this, theoretical and applied implications of the study are considered. The study concludes with a discussion of limitations and directions for future research.

Process Issues

A model was developed to account for the influence of affect on the processing of information. Drawing on previous theory and research related to the rating process, a generic model was derived. The precision of the model was enhanced by the application of categorization theory. The use of categories adds a perspective that allowed predictions to be made concerning the information that would ultimately in-
fluence performance evaluations. Affect was then built into the model through its impact on the categorization process. The affective-based model was used to describe the process by which leader evaluations of subordinates are influenced.

The first assumption of the model was that affect influenced the categorization process. According to this assumption, a liked subordinate would be classified into the superordinate category "good" person and a disliked subordinate would be classified as a "bad" person. On the basis of this assumption, Hypothesis 1 predicted that better performance would be expected from liked subordinates than from disliked subordinates. This hypothesis was supported. The results from the ANOVA on the task expectation measure showed that subjects expected greater performance from liked subordinates than from disliked subordinates. In addition, the path model relating affect to the outcome variables showed that affect was directly related to task performance expectations ($\beta = .421$).

It should be noted that this result only provides indirect support for the categorization process. More powerful support for the model would have been demonstrated if the outcome of the categorization was assessed directly. The use of the indirect approach, however, is not without precedent. Mount and Thompson (1987) examined the effects of categorization on subordinate ratings of leaders. They inferred categorization from the results of a median split on a measure of profile similarity. Subordinates were classified as low congruent if the per-
ceived leader behavior did not match their expectations and high congruent if perceived leader behavior did match their expectations.

A second assumption of the model was that the act of categorization would influence the processing of subsequent information. Generally, once impressions have already been formed, (a process that usually occurs within a few minutes), information consistent with the category tends to be encoded and retrieved (Higgins & Bargh, 1987). A notable exception occurs when information is evaluatively inconsistent with a category. In this case, the inconsistent information tends to be better recalled. (This effect may result from more associations being formed in an attempt to understand the inconsistent information, Wyer & Srull, 1986). For this reason, and because reliance on categories produces a response bias, it was predicted that performance behaviors inconsistent with the initial categorization would be more accurately recognized.

This line of reasoning suggested that (1) leaders would recognize poor performance behaviors better if they liked the subordinate, and (2) leaders would recognize good performance behaviors better if they disliked a subordinate. The results did not support this hypothesis. Signal detection analysis of the accuracy measure, A', indicated that affect did not induce any appreciable change in subjects' recognition memories.

Affect did produce a response bias in a category consistent fashion. Subjects attributed more false positive and less false negatives to confederates as affect increased. Moreover, this bias was maintained
when subjects were asked to indicate how confident they were with their decisions.

The memory sensitivity index, A', is influenced by response bias. Because of the category consistent response bias, the category inconsistent conditions should have been more accurate. In an attempt to explain this inconsistency, an analysis was conducted on the true positives and true negatives. The results showed that subjects were more accurate for category consistent items. The increase in accuracy for category consistent items was apparently offset by the category consistent response bias. Therefore, no differences in accuracy as a function of affect resulted.

Taken together, the results from the analysis of the recognition memory data suggest that affect does have an influence. The data suggest that affect does not distort what was observed; rather, affect appears to influence subjects' decision criteria. If subjects liked a confederate, they were more likely to attribute to the confederate positive performance behaviors and if subjects disliked a confederate, they were more likely to attribute negative performance behaviors. It was the criteria for making the decision that varied, not the information per se.

Because of the possibility of set size effects (due to the different proportion of true positive and true negative items), a supplementary analysis was conducted on A' with performance as a between subjects factor. The results showed a category consistent effect. When
performance was good, leaders were more accurate for positive items than negative items.

Two reasons are offered for the null result concerning Hypothesis 2. First, it is possible that leader feelings may not have influenced the cognitive processes associated with recognition memory. Wyer et al. (1984) found that inconsistent information was remembered better when a recall measure was used but that consistent information was remembered better when a recognition measure used. This explanation does not seem likely because consistent information was not remembered any better than inconsistent information.

Second, affect may not have influenced accuracy if the behavioral items were not perceived as evaluatively inconsistent with the classification. This is the most probable explanation. In order for items to be perceived as evaluatively inconsistent, three conditions must be satisfied. If any one of the following conditions was not met, the explanation remains tenable.

The first necessary condition was that the attitude manipulation had to prime the intended categories. In terms of category structure, the attitude manipulation was used to prime a superordinate level category of good person or bad person. This manipulation is consistent with Wyer & Gordon's (1984) position. They maintain that initial-impression classifications are influenced by the extent to which the target resembles either a prototypical likeable or dislikeable individual. For this
reason, and because affect had a direct relation to performance expectations, this condition was satisfied.

The second condition was that the performance behaviors were evaluatively inconsistent with the primed superordinate categories. The items on the behavior recognition questionnaire were constructed to represent incidents of good and poor performance. It is possible that these behaviors were more likely to be perceived as descriptively inconsistent rather than evaluatively inconsistent. No concrete evidence exists to demonstrate that the items were perceived as evaluatively inconsistent with the superordinate categories primed by the affect manipulation.

The superordinate categories may have been primed as intended, the behavioral items may have been evaluatively inconsistent with the primed categories, and still the null results could have been produced. This would have occurred if leaders did not perceive the items as intended. For the present study, leaders had to: (1) study a packet of creativity materials; (2) train the subordinate in information designed to increase creativity; (3) observe three videotaped speeches; and (4) indicate which good and poor behaviors were observed. If the subjects themselves did not learn the material well, they would have no idea that certain items were indicative of good performance and others were indicative of poor performance. This possibility can not be completely ruled out.

Hypothesis 3a and 3b were not able to be tested in the present study because of the affect by time confound. Subjects in the post-
Affect

observation condition were not significantly influenced by the affect manipulation. Apparently, the impressions subjects had of confederates were less resistant to change.

Hypothesis 3c was also not able to be tested. The purpose of this hypothesis was to examine a motivation effect on ratings if no cognitive effect was detected. The finding of response bias precluded the test of an independent motivational effect.

In summary, The results provide mixed support for the affective-based processing model. Supporting the model were results that showed response bias and task performance expectations were influenced by affect. The lack of an accuracy effect may have been do to either deficiencies in the conceptualization of the model or in the testing of the model. The next section addresses the relationships among affect and leader formal and informal evaluations of subordinates.

Affect and Outcome Variables

Hypothesis 4 predicted a leniency/severity effect of affect on leader global ratings of subordinate performance. The results were consistent with the hypothesis. There was a main effect of affect across performance levels (liked subordinates were given higher ratings) and affect interacted with subordinate performance. Post hoc analyses within each performance condition shed light on the nature of the interaction. When performance was good, liking produced a leniency effect. Liked subordinates were rated higher than neutral or disliked subordinates, and the difference between the neutral and disliked con-
Affect

ditions was not significant. On the other hand, when performance was poor a severity effect occurred. Disliked subordinates were rated significantly lower than the neutral and liked subordinates, and again, no statistically significant difference existed for the latter comparison. Although speculative, it may be that response bias effect mediated this result. As discussed above, leaders tended to attribute more non-presented good behaviors to liked subordinates and more non-presented bad performance behaviors to disliked subordinates.

What these results suggest is that affect will not change a good performance into a bad performance or vice versa. Rather, liking may make a good thing even better or disliking may make a bad thing even worse. Although speculative, it may be that the leniency and severity effects also resulted from a motivational distortion. That is, because of liking or disliking, subjects may have intentional increased or decreased the ratings.

The results from the path analysis show that affect was related to performance ratings in two ways. Affect had a direct effect on performance ratings. In addition, affect had an indirect effect through the mediating effects of task expectations. There was also a relationship between task expectations and performance ratings. Leaders who had higher expectations tended to provide higher ratings.

The results of the study clearly demonstrate that affect influences leader evaluations of subordinate performance. Affect may manifest an influence through response bias, through enhanced performance.
Affect

expectations, and through a tendency to rate a liked person's good performance even better or a disliked person's poor performance even worse. These mechanisms are probably not independent.

Hypothesis 5 predicted that affect would produce a halo effect. There are two major differences between the present study and the two studies that demonstrated a halo effect. Either of these might account for the null result in the present study. First, present study used a different method to assess a halo effect. For example, Tsui and Barry (1986) used intercorrelations among dimensions. Jacobs and Kozlowski (1985) noted that different indices of a halo effect may produce different conclusions. Second, in the present study each subject only rated one confederate. In the previous studies there were either several ratings of different subordinates by one rater or several raters rating the same subordinate. If the leader had been required to rate several ratees, some of whom were liked and disliked, the effect may have been detectable.

Hypotheses 6 and 7 pertained to the effects of affect on attributions. The interactive effects predicted were not found. Two issues, however, warrant discussion. First, the study showed that internal and external attributions were not a a unidimensional construct. Previous research treated attributions as if they existed along a continuum (e.g., Dobbins & Russell, 1986). The reliability estimates and factor analysis indicated that the internal and external attributions represented sepa-
rate attributes of the underlying construct. Therefore, attribution should be viewed as a multidimensional construct.

The results from the hierarchical regression analyses and the path analysis showed that performance and affect did influence internal attributions, although not in the manner predicted. Performance ratings had a direct relationship to internal attributions. The higher leaders rated subordinate performance the more likely they were to make internal attributions. Affect had a significant indirect effect on internal attributions. Affect increased performance ratings and through this effect increased internal attributions.

Two reasons are offered for the study's failure to replicate the findings of others that showed affect interacted with performance to influence attributions (Dobbins & Russell, 1986; Regan, Strauss, & Fazio, 1974). First, in the present study the leaders had to train the subordinates on how to be creative. Because the subordinates presumably had no prior knowledge about creativity, their performance was directly related to how well the leader trained them. If the leaders believed that they did not do a good job of training the subordinate, and that the subordinate performed poorly as a result, this may have confounded the hypothesized affect by performance interaction. The relatively low R²'s for the attribution measures and the task expectation measure suggest that important factors, such as how well the leader perceived the subordinate was trained, were not considered.
The second reason relates to the performance manipulation. In the present study the leaders were not told that the person performed poorly nor were they primed in any way to consider performance as good or poor. In the Dobbins and Russell (1986) study, leaders were explicitly asked to consider the performance of a poorly performing subordinate. Therefore, it may be that an interactional effect only occurs when the quality of performance has been clearly defined. Future research should examine this notion.

Hypothesis 8 received support. The leader's prior evaluation of subordinate performance had a substantial impact on subsequent evaluations, over and above the effects of the performance manipulation. It should be noted that the design did not provide an unambiguous test of this interpretation. To effectively test this, the study should have included a condition in which leaders did not provide the initial performance ratings, but only responded to the global expectation measure. Differences between groups that provided initial evaluations and groups that did not provide initial evaluations would have provided stronger support for the hypothesis.

The path analysis revealed some instructive results pertaining to the effects of affect on the global expectation measure. Affect did not have a direct relation to this measure; however, affect did have a significant indirect effects $\beta = .312$.

Affect had significant indirect effects on performance ratings and on global expectations. Another way to examine indirect effects is
through a mediational model. Barron and Kenny (1986) outlined the procedures for testing mediation. Following their approach, the mediating effects of performance ratings on the relationship between affect and global expectations was examined. The results indicated what Barron and Kenny call "perfect mediation". That is, when the influence of performance ratings was controlled, the relationship between affect and expectations was not significant.

This finding is interesting because the results from the ANOVA strategy had showed that affect had a significant impact on global expectations (see Table 15). If the path analysis had not been conducted, it would have been erroneously concluded that changes in affect produced changes in global expectations. As the results from the test of mediation showed, affect only influenced global expectations through its mediating effects on performance ratings.

The main conclusion to be drawn from this section is that affect does have an influence on leader formal and informal evaluations of subordinates. These effects may occur directly (e.g., liked subordinates receive better ratings) or indirectly (e.g., liking increases global expectancies through its effects on performance rating). The implications of these findings for organizations are discussed below.

Applied Implications

An integral aspect of organizational functioning is the evaluation of its members. It is generally assumed that more accurate evaluations lead to better decisions. This assumption has driven decades of research
on evaluations of leader and subordinate performance. In spite of this fact, most organizations continue to rely on some form of global rating instrument to evaluate performance; the reliability and validity of this format have been repeatedly called into question (Bernardin & Beatty, 1984).

This study and others (e.g., Tsui & Barry, 1986), have shown that affect influences leader global ratings of subordinate performance. Leaders tend to give liked subordinates better ratings than warranted, and disliked subordinates worse ratings than warranted. This finding has legal implications; if performance ratings are used as input into personnel-related decisions, then this bias may produce unfair discrimination. Consider race as an example. Assume that a supervisor is prejudiced and that he or she is responsible for evaluating two poor-performing subordinates, one white and one black. The affect-based model suggests that leaders would have assigned the subordinates to evaluatively different categories, positive for the white subordinate and negative for the black subordinate. If the results of the present study are generalizable, the performance ratings would reflect a bias in that the black subordinate would receive significantly worse ratings than warranted. This example illustrated a negative implication for organizations. In fact, any bias in performance evaluations is typically viewed as detrimental to organizational functioning.

Similar to the seemingly paradoxical result that turnover can be positive for organizations, global ratings, biased by affect, may also
make a beneficial contribution to organizations. To illustrate, the ability to get along with others is often critical to the effective functioning of organizations. For example, the work performance of a group may be influenced by how well the members get along; or, the job satisfaction of a subordinate may be influenced by how well the person gets along with the supervisor. If a person is strongly disliked then he or she may be detrimental to the functioning of an organization. Furthermore, if a person is liked, he or she may promote the success of an organization indirectly through facilitating communication, promoting better performance from co-workers, and increasing the satisfaction of co-workers. To the extent these side-effects occur, bias in ratings may be warranted. This is an empirical question to be addressed by future research.

If an affective bias were to be perceived as having negative implications for an organization, the present results indicate some steps that may be taken to reduce this bias. The results of the study indicate that people believe that liked persons will perform better than disliked persons, that liked persons tend to be attributed good behaviors and disliked persons bad behaviors that did not occur, and that at the time of ratings, if performance is good (other things being equal), a liked person's ratings will be systematically increased, and if performance is poor, (other things being equal) a disliked person will receive lower ratings than warranted. These results suggest that people's beliefs, as influenced by affect, have a strong influence on performance ratings.
Lord, Lepper, and Preston (1984) addressed the problem of correcting social judgments when people's beliefs pervasively color and bias their evaluations of others. They proposed a strategy that called for people to consider possibilities at odds with their beliefs and perceptions of the moment. They found that by asking people to consider the opposite, the corrective effects on social judgments were much greater than by asking people to be as fair and unbiased as possible.

This result seems readily applicable to a performance rating context. Raters could be asked to indicate their affective orientation toward the ratee. If the ratee was liked, then raters could be instructed to consider poor performance behaviors first. Conversely, if the ratee was disliked, the rater could be asked to recall examples of good performance first. The potential of this corrective strategy to increase the accuracy of ratings should be explored.

Theoretical Concerns

The affective-based model presented in the study contributes to the literature concerned with the relationship of affect on cognitions. In this study, it was argued that affect influenced cognitions and evidence was provided that supported this assumption. Other models view affect as dependent on cognitions (e.g., Fiske & Pavelchak, 1986; Weiner, 1985). Rather than debate which is primary, a more informative question might be "how does affect influence cognitions and how do cognitions influence affect".
The present study lends some insight to the first part of this question. Affect apparently influenced cognitions by altering the categorization process. This in turn influenced task expectations. Affect also had an impact on a cognitive mechanism (response bias). Leaders tended to attribute more good non-presented behaviors to liked subordinates and more poor non-presented behaviors to disliked subordinates. Both of these factors may have contributed to the observed severity and leniency bias.

Nisbett and DeCamp-Wilson (1977) showed that affect biased evaluations of performance without subject awareness. The affective-model can account for this result. According to the model, liked and disliked ratees would have been assigned to different categories and raters would tend to process information consistent with the category. This would have the effect of funneling the processing of subsequent information such that the resulting ratings would be based on a biased sampling of behaviors. Given that categories function without conscious awareness (Fiske & Taylor, 1984; Wyer & Srull, 1986) subjects would not be aware of the distortion in their ratings.

At a macro level, a neglected area of research pertains to the relationship among behavior, affect, and cognitions (for an exception see Isen, Shakler, Clark, & Karp, 1978). The recent work of Joel Cooper is illustrative of the interdependence of the three domains. Cooper (1988) integrated affect, behavior, and cognition within a traditional dissonance paradigm. He found that behavior change, a result of inco-
sistent cognitions, only occurred if the preceding action produced consequences that had affective implications for the person. Colloquially speaking, if the person was "bummed out" by the consequences of his behavior, cognitive dissonance was produced and behavior was altered. The present study showed that affect influenced cognitions and through this altered the rating behavior of leaders.

A strength of the model is its generality. The model is also applicable to settings where subordinates evaluate leaders and where peers evaluate each other. Actually, the model is applicable to any context where an object must be evaluated and the rater has some affective orientation to the object. For example, Edell and Burke (1987) examined the role of feelings in understanding advertising effects. This model could be applied in such a context to predict the aspects of an advertisement that people will remember.

The affective-model presented a simplistic view of the relation between affect and cognition. It is more likely that the two domains influence each other. That is, under certain conditions affect may influence cognitions and under other conditions the causal order may be reversed. Furthermore, this reciprocal interaction may produce changes in the thoughts and feelings of a person over time. Future model development must be able to account for these possibilities.

Limitations and Future Research

There are several limitations of the study that qualify the interpretation of the results. Several of these involve the internal va-
lidity of the study. First, there is the process manipulation. In the present study, subjects in the retrieval condition had probably formed evaluative impressions of confederates before they viewed performance. Furthermore, the impressions that were formed were resistant appeared to be resistant to change at the time the post-observation prime was given. Finally, leaders in the neutral conditions were not neutral. Based on the initial meeting and the training sessions, they had formed evaluative impressions. This was evidenced by the scores on the IJS that ranged from liking to disliking. For these reasons, the timing set manipulation could not be used to infer encoding or retrieval processes. In future research, the rater should not be exposed to the ratee until after the rater has viewed the stimulus material, and neutral subjects should not be given any personal information.

Another issue related to internal validity pertains to the method of assessing the effects of affect. The study used subject responses on the IJS to form the three affect groups. The strength of randomization to equate groups could not be relied upon after the decision was made to use the constructed, rather than the manipulation-induced affect groups. In addition, because subjects were self-selected into the groups, third variable explanations can not be ruled out.

There are several features of the study that limit the external validity of the findings. For example, the study took place in a laboratory setting, used college freshman as subjects, and lasted one hour. These factors are not believed to limit the generality of results for
several reasons. First, the focus of the study was to increase understanding of the processes by which affect influences evaluations. There is no reason to expect that people would not dislike or like other people in work settings. Therefore, the present findings should have process generality (Wendelken & Inn, 1981). Second, due to increased social contact, to more ego-involvement in the task, and to the greater amount of verbal and nonverbal cues, the effects of affect, (if anything) are likely to be more pronounced in applied contexts. Third, the increased contact that results in organizations would likely produce greater levels of affective intensity.

A concern of critics of laboratory-based performance appraisal studies, is the reliance on passive-observer strategies to investigate phenomena (Dipboye, 1985). The use of a simulation strategy that incorporated face-to-face interactions circumvented this criticism. Two factors identified by Ilgen and Favero (1985) are more problematic: future interactions and the lack of consequences of the results of the evaluations. In organizations, leaders and subordinates have interactions after the evaluation and personnel decisions are influenced by performance ratings. Each of these factors could potentially negate or enhance the effects of affect. Future research should address this possibility.

There are some construct validity issues to be considered. The first pertains to the items on the behavior recognition measure. The possibility that the behaviors were were not perceived as intended cannot
be ruled out. Some items were meant to be evaluatively inconsistent, but may have only been perceived as descriptively inconsistent. Future research should provide evidence to demonstrate that subjects perceive the information as intended.

Second, the present study inferred categorization on the basis of subject responses to the IJS. Another direction future research might take is to develop strategies to assess categorization directly. This would lend support to the argument that categorization processes were responsible for the observed effects.

A third issue relates to the definition and conceptualization of affect. More work needs to be done articulating the similarities and differences among the concepts of affect, feelings, emotions.

A final construct validity issue pertains to the structure and types of evaluations. As noted in this study, evaluations can vary on a number of dimensions. For example, the source and target of evaluations may differ; as from supervisor to subordinate, subordinate to supervisor, or peer to peer. The type of evaluation can vary: evaluations are made "explicitly", in response to organizational demands, and "implicitly", in response to perceivers' demands to understand, predict and control behavior. Performance appraisals and promotion decisions are examples of explicit evaluations and attributional analysis and the formation of performance expectations are examples of implicit evaluations. The form of evaluations may differ. For example, an interviewee may be evaluated formally in writing, or a group of individuals may
verbally discuss the candidates attributes in route to a hiring decision. Finally, the frequency of evaluations may vary. Performance appraisals rarely occur more than twice a year, but attributional analysis may occur daily. These are only a few of many possible dimensions by which evaluations differ. Future research should address articulate the dimensions by which evaluations differ. In addition, more work needs to be done on the relationship among the types of formal and informal evaluations that occur in organizations. The relationships among expectancies, attributions, and formal ratings deserves further attention.

Summary

Several conclusions can be drawn from the study. First, while affect did not influence recognition memory accuracy, it did influence responses to non-presented behavior items in a category-consistent fashion. If a confederate was liked, leaders attributed more false positives and were more confident that the good behaviors had been performed. If the confederate was disliked, leaders attributed more false negatives and were more confident that the negative behaviors had been performed.

Second, leaders did commit leniency and severity errors. When performance was good, leaders gave liked confederates significantly higher ratings than neutral or disliked confederates. And, when performance was poor, leaders gave disliked confederates significantly lower ratings than neutral or liked confederates.
Third, the results from the path analysis indicated that affect exerts a direct effect on performance ratings and also an indirect effect by increasing task expectations. In fact, with global expectations affect had a significant indirect effect but not significant direct effect.

The most obvious conclusion to be drawn from the study is that affect has a substantial impact on formal and informal evaluations of performance. Therefore it would behoove researchers to consider affect in the construction of models depicting the performance rating processes.
REFERENCES


Cooper, J. (1988). Invited address presented to the Department of Psychology, Blacksburg, VA.


Appendix A

Creativity Materials
Creativity is an abstract phenomenon that is very difficult to define. Although people usually can agree on whether certain acts or people more or less creative, there is considerably less agreement about the actual definition of creativity. People do, however, appear to agree on certain attributes of creativity. In particular, there are three characteristics of creativity that most people agree with. The three aspects of creativity are listed below along with a description of each dimension.

1. FLEXIBILITY

   Flexibility can be defined as the capacity to produce a variety of DIFFERENT ideas that cause a shift from one thought pattern or category to another. Thus flexibility means a CHANGE of some kind -- a change in meaning, interpretation or use of something. The greater the number of distinctly different categories generated, the more flexible the effort, the more creative the effect. If a person maintains the same theme throughout, then they were not flexible.

   For example: if you were asked to think of possible uses for a brick, and you responded with build a house, build a school, build a factory, then you did not change categories and were not creative. On the other hand, if you responded with such things as make a paper weight, drive a nail, make a doorstep, throw at a cat, hold a test tube, make a tombstone for a bird etc., you were much more flexible in that you thought of many different categories.

2. ORIGINALITY

   Originality can be defined as the uniqueness or rarity of a response. The idea produced would be unusual, clever, or novel. For something to be considered original, it should consist of new associations between ideas, concepts, or things. It should be something that is not obvious and that may even surprise you. Although it should be unique, it must also be appropriate. That is, it must have some relevance to the content of the material. For example, if asked to give uses for a brick and you responded with "make an airplane", it would not be relevant. In other words, while the response is novel, it is not appropriate.
3. ELABORATION

Elaboration refers to the information provided with an idea or image. If sufficient information is provided, the observer will understand the concept being communicated. Another way to think of elaboration is in terms of detail. The creative act should have enough detail to provide clear interpretation. In general, the more elaborate the act the more creative. However, there are limits. If a person goes on and on about something it may no longer be creative. If too much detail is provided, then the act will be bogged down in trivial details and appear uninteresting. Thus, elaboration is providing sufficient information to communicate an idea or image, but not running it into the ground.

In sum, there are three attributes of a creative act. First, there is FLEXIBILITY. Flexibility can be thought of as change. The more changes to different categories, the more creative the act. The next attribute is ORIGINALITY. Originality is simply novel or unique ideas that are appropriate to a given context. Finally, there is ELABORATION. To the extent that necessary detail is provided but excess verbiage is not, it is creative.

II. EXERCISES

Even if a person is creative, they often will not think or behave creatively because of cognitive barriers. Barriers can be defined as factors that impedes progress or restricts free movement. That is, because we tend to think in a straightforward, somewhat rigid fashion, we limit our creative potential. There are two exercises for you to do that illustrate how cognitive blocks restrict our creativity.
For this first exercise, count how many squares you see.

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Did you say sixteen? That would be an expected answer. Did you count the outside square and get seventeen? Look at all the squares within the largest square. You'll find that there are thirty squares on this flat plane. (After you discover the 2-by-2 squares, don't forget the 3-by-3 ones)
What this exercise illustrates is that so often we give what we assume is the anticipated response, or WE FAIL TO LOOK BEYOND THE OBVIOUS. We look at something and immediately come up with a solution without taking the time to consider all the possibilities. Thus, this exercise shows that we must not jump to immediate conclusions. Rather, we should take more time to study a stimulus and consider a number of possibilities. In dealing with your subordinates, you can emphasize the importance of taking a few moments to think about something and consider different possibilities, before rushing in and trying to do the task.

This next exercise is designed to illustrate another cognitive barrier that restricts creative behavior.

*   *   *

*   *   *

*   *   *

INSTRUCTIONS

Connect all nine dots with four straight lines. Go through each dot only once. Do not lift your pencil from the paper.
Most people assume that to solve this problem you are not supposed to allow the pencil to go outside the dots. However, to solve the problem, this is precisely what you must do. In other words, when faced with a stimulus or problem, there is a natural tendency to limit one's attempts at solution within SELF-IMPOSED boundaries. However, such constraints are arbitrary. The first task, therefore is to free oneself of such constraints. Creative people tend, in fact, to be remarkably unconstrained -- which perhaps explains why their behavior appears odd to other people. However, "odd" behavior allows one to see the world from many different vantage points and allows greater and richer range of associations.

III. DEVELOPING CREATIVITY

Up to this point you should be familiar with the following. You should know the three aspects of creativity: flexibility, originality, and elaboration. In addition, you should be aware of the fact that we all have cognitive barriers that prevent us from being creative. The two cognitive barriers illustrated in the examples were (a) the tendency to rush in and give responses without taking the time to think through things and (b) the tendency to self-impose barriers or constraints where none exist.

The next thing you are going to cover is the use of analogies to facilitate creative thinking. That is, by thinking it terms of analogies, we can achieve new insight and release ourselves from conventional ways of thinking.
PERSONAL ANALOGY

One excellent method for developing creative thinking is through personal identification with the elements of the stimulus. By viewing the stimulus in such a way that you actually become part of it (NO MATTER WHAT IT IS), it releases you from thinking about it in a traditional, stereotyped fashion. What this technique requires is that you personally identify with the stimulus. That is, you actually picture yourself as the object or part of it, in order to achieve insights which otherwise might not have been apparent.

For example, if you were a chemist studying molecules; a creative person would think of him or herself to be a dancing molecule, discard the viewpoint of the expert, and throw him or herself in to the activity of the elements. He or she becomes one of the molecules. Then, he or she permits oneself to be pushed and pulled by the molecular forces. He remains a human being but acts as though he were molecule.

As another example, consider the following description from Keats: I leaped headlong into the sea, and thereby have become better acquainted with the sounds, the quicksands, and the rocks, than if I had stayed upon the green shore and piped a silly pipe, and took tea and comfortable advice.

The main point from these examples is that through personal analogy, we can identify with the stimulus. What this means is that when we think of stimulus, we should try to become a part of it. That is, we should try to visualize ourselves as being part of the stimulus. This will free us from conventional ways of thinking and allow us to become more creative.

In summary, there are three aspects of creativity that people can agree on: flexibility, originality, and elaboration. To enable people to become creative, cognitive barriers have to be removed. Finally, people can develop their creativity through personal analogies.
Appendix B

Attitude Survey
Attitude Survey

1. Fraternities and Sororities (circle one)

STRONGLY AGAINST SLIGHTLY NEUTRAL SLIGHTLY IN FAVOR STRONGLY

2. Federal government's build up of nuclear arms (circle one)

STRONGLY AGAINST SLIGHTLY NEUTRAL SLIGHTLY IN FAVOR STRONGLY AGAINST AGAINST IN FAVOR IN FAVOR

3. Virginia's new safety belt law (circle one)

STRONGLY AGAINST SLIGHTLY NEUTRAL SLIGHTLY IN FAVOR STRONGLY AGAINST AGAINST IN FAVOR IN FAVOR

4. Premarital Sexual Relations (circle one)

STRONGLY AGAINST SLIGHTLY NEUTRAL SLIGHTLY IN FAVOR STRONGLY AGAINST AGAINST IN FAVOR IN FAVOR

5. Importance of making of Money (circle one)

VERY UNIMPORTANT SLIGHTLY NEUTRAL SLIGHTLY IMPORTANT VERY UNIMPORTANT UNIMPORTANT IMPORTANT IMPORTANT

6. Political Parties (circle one)

STRONGLY DEMOCRAT SLIGHTLY NEUTRAL SLIGHTLY REPUBLICAN STRONGLY DEMOCRAT DEMOCRAT REPUBLICAN REPUBLICAN

7. Co-ed Dormitories (circle one)

STRONGLY AGAINST SLIGHTLY NEUTRAL SLIGHTLY IN FAVOR STRONGLY AGAINST AGAINST IN FAVOR IN FAVOR

8. People's right to smoke (circle one)

STRONGLY AGAINST SLIGHTLY NEUTRAL SLIGHTLY IN FAVOR STRONGLY AGAINST AGAINST IN FAVOR IN FAVOR

9. Divorce (circle one)

STRONGLY AGAINST SLIGHTLY NEUTRAL SLIGHTLY IN FAVOR STRONGLY AGAINST AGAINST IN FAVOR IN FAVOR
10. Equal Rights Amendment (circle one)

STRONGLY AGAINST SLIGHTLY NEUTRAL SLIGHTLY IN FAVOR STRONGLY AGAINST AGAINST IN FAVOR IN FAVOR

11. College students drinking alcoholic beverages (circle one)

STRONGLY AGAINST SLIGHTLY NEUTRAL SLIGHTLY IN FAVOR STRONGLY AGAINST AGAINST IN FAVOR IN FAVOR

12. A person's right to have an abortion (circle one)

STRONGLY AGAINST SLIGHTLY NEUTRAL SLIGHTLY IN FAVOR STRONGLY AGAINST AGAINST IN FAVOR IN FAVOR
Appendix C

Interpersonal Judgment Scale
Interpersonal Judgment Scale

This is a questionnaire to find out the way in which you perceive the subordinate. Using the scale provided, select an alternative the best indicates your impression of the subordinate. Please record your response onto the Opscan. Remember, your responses will be kept strictly confidential. Please consider each question carefully and respond as you truly feel.

1. Intelligence (select one)

WELL
ABOVE
AVERAGE
1 2 3

AVERAGE
4 5 6 7 8 9

2. Knowledge of Current Events (select one)

WELL
ABOVE
AVERAGE
1 2 3

AVERAGE
4 5 6 7 8 9

3. Morality (select one)

MORAL
1 2 3

MODERATE
4 5 6 7 8 9

IMMORAL
275x350

4. Adjustment (select one)

MALADJUSTED
1 2 3

MODERATE
4 5 6 7 8 9

WELL ADJUSTED
275x389

5. Personal Feelings (select one)

LIKE
1 2 3

NEUTRAL
4 5 6 7 8 9

DISLIKE

6. Feelings about working with person in another experiment.

DISLIKE
1 2 3

NEUTRAL
4 5 6 7 8 9

LIKE

129
Appendix D

TASK EXPECTANCY MEASURE
### Task Expectancy Measure

Now that you have had an opportunity to interact with and train the subordinate. We are interested in determining how well you think the subordinate will perform on the creative task. Please answer the following questions as truthfully as you can and record your responses onto the Opscan.

1. How well do you think the subordinate will perform on the task?

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<td>7 8 9</td>
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2. How likely is it that the subordinate will perform poorly on the task?

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<th>LIKELY</th>
<th>EITHER WAY</th>
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3. How much creative ability do you think the subordinate has?

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Appendix E

Behavior Recognition Measure -- Good Performance
Behavior Recognition Measure -- Good Performance

The measure relates to the subordinate speeches. For each item, indicate whether the subordinate performed the behavior. If YES, put a "Y" in the YES column and if NO put a "N" in the NO column. Also, indicate how confident you are with each of your responses.

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1. YES NO CONFIDENCE
   The subordinate made eye contact 2 or more times during each speech.
2. YES NO CONFIDENCE
   The subordinate changed viewpoints 2 or more times per speech.
3. YES NO CONFIDENCE
   The subordinate spoke in a monotone voice.
4. YES NO CONFIDENCE
   The subordinate sat slouched in the chair.
5. YES NO CONFIDENCE
   The subordinate's stories fit the context implied by the picture.
6. YES NO CONFIDENCE
   The subordinate repeated themselves at a rate of more than twice per speech.
7. YES NO CONFIDENCE
   The subordinate went outside the boundaries imposed by each picture.
8. YES NO CONFIDENCE
   The subordinate slurred or mumbled some words.
9. YES NO CONFIDENCE
   The subordinate took at least 5 to 10 seconds to study each picture.
10. YES NO CONFIDENCE
    The subordinate provided too much detail on two or more speeches.
11. YES NO CONFIDENCE
    The subordinate used transitions to provide clarity between ideas.
12. YES NO CONFIDENCE
    The subordinate provided a context before beginning each speech.
13. YES NO CONFIDENCE
    The subordinate paused and said "ah" or "um" more than three times per speech.
14. YES NO CONFIDENCE
    The subordinate summarized the major points.
15. YES NO CONFIDENCE
    The subordinate added emphasis to words. (i.e., changed the tone or pitch of his/her voice.
16. YES NO CONFIDENCE
    The subordinate twirled their hair more than twice per speech.
17. YES NO CONFIDENCE
    The subordinate produced novel associations for each picture.
18. YES NO CONFIDENCE
    The subordinate switched topics abruptly on more than one occasion for each speech.
19. YES NO CONFIDENCE
    The subordinate began each speech without considering different possibilities.
20. YES NO CONFIDENCE
    The subordinate provided the detail to communicate a concept.

133
Appendix F

Behavior Recognition Measure -- Poor Performance
Affect

Behavior Recognition Measure -- Poor Performance

The measure relates to the subordinate speeches. For each item, indicate whether the subordinate performed the behavior. If YES, put a "Y" in the Yes column and if NO put a "N" in the NO column. Also, indicate how confident you are with each of your responses.

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1. __ __ __ The subordinate made eye contact at least once during each speech.
2. __ __ __ The subordinate changed viewpoints 2 or more times per speech.
3. __ __ __ The subordinate spoke in a monotone voice.
4. __ __ __ The subordinate sat slouched in the chair.
5. __ __ __ The subordinate's stories fit the context implied by the picture.
6. __ __ __ The subordinate repeated themselves at a rate of more than twice per speech.
7. __ __ __ The subordinate went outside the boundaries imposed by each picture.
8. __ __ __ The subordinate slurred or mumbled many words during each speech.
9. __ __ __ The subordinate took at least 5 to 10 seconds to study each picture.
10. __ __ __ The subordinate provided too much detail on two or more speeches.
11. __ __ __ The subordinate used transitions to provide clarity between ideas.
12. __ __ __ The subordinate at times spoke too fast to understand clearly.
13. __ __ __ The subordinate paused and said "ah" or "um" more than three times per speech.
14. __ __ __ The subordinate summarized the major points.
15. __ __ __ The subordinate added emphasis to words. (i.e., changed the tone or pitch of his/her voice.
16. __ __ __ The subordinate twirled his/her hair on more than one occasion.
17. __ __ __ The subordinate produced novel associations for each picture.
18. __ __ __ The subordinate switched topics abruptly on more than one occasion for each speech.
19. __ __ __ The subordinate began each speech without considering different possibilities.
20. __ __ __ The subordinate provided details that did not fit the picture.
Appendix G

Global Performance Rating
Global Performance Rating

This questionnaire is designed to obtain your ratings of the subordinate's performance. Read each item carefully and indicate your response using the scale provided. For this questionnaire, please record your responses directly onto the Opscan. Make sure you read each item carefully and record the response alternative that best describes his/her performance.

STRONGLY DISAGREE 1 2 3 4 5 6 7 8 9 STRONGLY AGREE

1. The subordinate was motivated to perform the task.
2. The subordinate has POOR oral expressive skills
3. The subordinate was UNCOOPERATIVE in performing the task.
4. The subordinate has good conceptual ability.
5. The subordinate appears to be a quick learner.
6. The subordinate LACKS emotional maturity.
7. The subordinate has good listening skills.
8. The subordinate demonstrates good judgment and common sense.
9. The subordinate does NOT work well with his superiors.
10. The subordinate was original.
11. The subordinate was NOT flexible.
12. The subordinate did NOT elaborate.
Appendix H

Attribution Measure
Affect

Attribution Measure

Typically, a person's performance is due to many different factors. This questionnaire is designed to obtain your impressions about the factors that influenced the subordinate's performance on the creative task. For each item, decide how much of an impact it had on the subordinates performance. Record your responses onto the Opscan.

1. The subordinate's ability.

<table>
<thead>
<tr>
<th>Very Little Influence</th>
<th>Moderate Influence</th>
<th>Strong Influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. The amount of effort the subordinate exerted.

<table>
<thead>
<tr>
<th>Very Little Influence</th>
<th>Moderate Influence</th>
<th>Strong Influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. The subordinate's attitude.

<table>
<thead>
<tr>
<th>Very Little Influence</th>
<th>Moderate Influence</th>
<th>Strong Influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. The difficulty of the task.

<table>
<thead>
<tr>
<th>Very Little Influence</th>
<th>Moderate Influence</th>
<th>Strong Influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. The amount of training the subordinate received.

<table>
<thead>
<tr>
<th>Very Little Influence</th>
<th>Moderate Influence</th>
<th>Strong Influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. Time constraints.

<table>
<thead>
<tr>
<th>Very Little Influence</th>
<th>Moderate Influence</th>
<th>Strong Influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix I

Global Performance Expectations
Affect

Global Performance Expectations

The following questions are designed to obtain your impression of how well you think the subordinate will perform in the future. Using the scale provided, choose an alternative that best describes how you feel and record your response onto the Opscan.

1. How well do you think the subordinate would perform if he/she were to do the same task again?

<table>
<thead>
<tr>
<th>VERY GOOD</th>
<th>VERY GOOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 9</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VERY POOR</th>
<th>AVERAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3</td>
<td>4 5 6 7</td>
</tr>
</tbody>
</table>

2. How well do you think the subordinate would perform on other creative tasks?

<table>
<thead>
<tr>
<th>VERY GOOD</th>
<th>VERY GOOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 9</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VERY POOR</th>
<th>AVERAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3</td>
<td>4 5 6 7</td>
</tr>
</tbody>
</table>

3. How much potential does the subordinate have to acquire creative skills through more training?

<table>
<thead>
<tr>
<th>VERY GOOD</th>
<th>VERY GOOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 9</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VERY POOR</th>
<th>AVERAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3</td>
<td>4 5 6 7</td>
</tr>
</tbody>
</table>
Appendix J

Secondary Affect Scale
Secondary Affect Scale

The final questionnaire is designed to assess you how perceived the subordinate. Using the scale provided, record your responses directly onto the Opscan. Remember to provide an answer to each of the items.

1. How warm was the subordinate?

Very Cold  Neutral  Very Warm
1  2  3  4  5  6  7  8  9

2. How friendly was the subordinate?

Unfriendly  Neutral  Friendly
1  2  3  4  5  6  7  8  9

3. How interested in you was the subordinate?

Uninterested  Neutral  Interested
1  2  3  4  5  6  7  8  9

4. How willing are you to interact with the subordinate?

Unwilling  Neutral  Willing
1  2  3  4  5  6  7  8  9

5. How much do you trust the subordinate?

Distrustful  Neutral  Trustful
1  2  3  4  5  6  7  8  9

6. How similar is the subordinate to you?

Dissimilar  Neutral  Similar
1  2  3  4  5  6  7  8  9

7. How much at ease were you with the subordinate?

Uneasy  Neutral  At Ease
1  2  3  4  5  6  7  8  9

8. How much do you believe the subordinate likes you?

Dislikes  Neutral  Likes
1  2  3  4  5  6  7  8  9
Appendix K

Summary Tables for all Analyses
Table 1

Check on the Affect Manipulation
<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>F</th>
<th>Sig of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affect</td>
<td>264.849</td>
<td>1</td>
<td>35.818</td>
<td>.000</td>
</tr>
<tr>
<td>Perform</td>
<td>4.098</td>
<td>1</td>
<td>.554</td>
<td>.458</td>
</tr>
<tr>
<td>Time</td>
<td>2.170</td>
<td>1</td>
<td>.293</td>
<td>.589</td>
</tr>
<tr>
<td>Affect x Perform</td>
<td>6.892</td>
<td>1</td>
<td>.932</td>
<td>.336</td>
</tr>
<tr>
<td>Affect x Time</td>
<td>31.545</td>
<td>1</td>
<td>4.266</td>
<td>.041</td>
</tr>
<tr>
<td>Perform x Time</td>
<td>.027</td>
<td>1</td>
<td>.004</td>
<td>.952</td>
</tr>
<tr>
<td>Affect x Perform x</td>
<td>3.602</td>
<td>1</td>
<td>.487</td>
<td>.486</td>
</tr>
<tr>
<td>Time</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residual</td>
<td>1138.722</td>
<td>154</td>
<td>7.394</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1449.605</td>
<td>161</td>
<td>9.004</td>
<td></td>
</tr>
</tbody>
</table>

### Table 1

Summary of ANOVA for IJS and Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>Time 1</th>
<th>Time 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor Performance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dissimilar</td>
<td>11.11 (2.49) (19)</td>
<td>12.55 (3.22) (20)</td>
</tr>
<tr>
<td>Similar</td>
<td>14.45 (2.67) (20)</td>
<td>13.52 (2.18) (21)</td>
</tr>
<tr>
<td>Good Performance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dissimilar</td>
<td>11.33 (3.06) (21)</td>
<td>12.14 (2.64) (22)</td>
</tr>
<tr>
<td>Similar</td>
<td>14.90 (2.47) (21)</td>
<td>14.53 (2.89) (19)</td>
</tr>
</tbody>
</table>

Note: N = 162. Standard deviations are in parentheses after the means and cell sizes are in parentheses below the means.
Table 2

Check of IJS by Confederates
### Table 2

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>F</th>
<th>Sig of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affect</td>
<td>256.536</td>
<td>1</td>
<td>41.510</td>
<td>.000</td>
</tr>
<tr>
<td>Confederate</td>
<td>103.779</td>
<td>3</td>
<td>5.597</td>
<td>.001</td>
</tr>
<tr>
<td>Time</td>
<td>1.439</td>
<td>1</td>
<td>.233</td>
<td>.630</td>
</tr>
<tr>
<td>Affect x Confederate</td>
<td>90.734</td>
<td>3</td>
<td>4.894</td>
<td>.003</td>
</tr>
<tr>
<td>Affect x Time</td>
<td>32.382</td>
<td>1</td>
<td>5.240</td>
<td>.024</td>
</tr>
<tr>
<td>Confederate x Time</td>
<td>25.246</td>
<td>3</td>
<td>1.362</td>
<td>.257</td>
</tr>
<tr>
<td>Affect x Confederate x Time</td>
<td>28.681</td>
<td>3</td>
<td>1.547</td>
<td>.205</td>
</tr>
<tr>
<td>Residual</td>
<td>889.935</td>
<td>144</td>
<td>6.180</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1424.944</td>
<td>159</td>
<td>8.962</td>
<td></td>
</tr>
</tbody>
</table>
Table 3

Descriptive Statistics for Confederate x Affect Interaction
Table 3
Descriptive Statistics for Confederate by Affect Interaction.

<table>
<thead>
<tr>
<th>Confederate</th>
<th>Dissimilar</th>
<th>Similar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confederate 1</td>
<td>9.35 (2.06)</td>
<td>14.40 (2.50)</td>
</tr>
<tr>
<td>(20)</td>
<td>(20)</td>
<td></td>
</tr>
<tr>
<td>Confederate 2</td>
<td>12.29 (3.00)</td>
<td>14.25 (2.71)</td>
</tr>
<tr>
<td>(21)</td>
<td>(20)</td>
<td></td>
</tr>
<tr>
<td>Confederate 3</td>
<td>11.95 (2.01)</td>
<td>19.95 (2.33)</td>
</tr>
<tr>
<td>(22)</td>
<td>(20)</td>
<td></td>
</tr>
<tr>
<td>Confederate 4</td>
<td>13.63 (2.73)</td>
<td>14.67 (2.81)</td>
</tr>
<tr>
<td>(19)</td>
<td>(18)</td>
<td></td>
</tr>
</tbody>
</table>

Note. N = 160. Standard deviations are in parentheses after the means and cell sizes are in parentheses below the means.
Table 4

Correlations Among Affect Variables
Table 4

Correlations Among Affect Variables

<table>
<thead>
<tr>
<th></th>
<th>Created Affect</th>
<th>IJS</th>
<th>Manipulated Affect</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRE-OBSERVATION SUBJECTS (n=80)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Created Affect</td>
<td>---</td>
<td>.92</td>
<td>.56</td>
</tr>
<tr>
<td>IJS</td>
<td>---</td>
<td></td>
<td>.55</td>
</tr>
<tr>
<td>Manipulated Affect</td>
<td></td>
<td></td>
<td>---</td>
</tr>
</tbody>
</table>

POST-OBSERVATION SUBJECTS (n=82)

<table>
<thead>
<tr>
<th></th>
<th>Created Affect</th>
<th>IJS</th>
<th>Manipulated Affect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Created Affect</td>
<td>---</td>
<td>.92</td>
<td>.18</td>
</tr>
<tr>
<td>IJS</td>
<td>---</td>
<td></td>
<td>.29</td>
</tr>
<tr>
<td>Manipulated Affect</td>
<td></td>
<td></td>
<td>---</td>
</tr>
</tbody>
</table>
Table 5

Check on Created Affect Groups
Table 5

Summary of ANOVA for IJS and Cell Descriptive Statistics for Created Affect Groups

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>F</th>
<th>Sig Of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feel</td>
<td>1214.38</td>
<td>2</td>
<td>411.10</td>
<td>.000</td>
</tr>
<tr>
<td>Perform</td>
<td>.73</td>
<td>1</td>
<td>.50</td>
<td>.482</td>
</tr>
<tr>
<td>Time</td>
<td>.25</td>
<td>1</td>
<td>.17</td>
<td>.682</td>
</tr>
<tr>
<td>Feel x Perform</td>
<td>2.35</td>
<td>2</td>
<td>.80</td>
<td>.453</td>
</tr>
<tr>
<td>Feel x Time</td>
<td>6.26</td>
<td>2</td>
<td>2.12</td>
<td>.124</td>
</tr>
<tr>
<td>Perform x Time</td>
<td>5.54</td>
<td>1</td>
<td>3.75</td>
<td>.055</td>
</tr>
<tr>
<td>Feel x Perform x Time</td>
<td>1.31</td>
<td>2</td>
<td>.44</td>
<td>.642</td>
</tr>
<tr>
<td>Residual</td>
<td>221.55</td>
<td>150</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1449.61</td>
<td>161</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Poor Performance</th>
<th>Disliked (Mean (SD))</th>
<th>Neutral (Mean (SD))</th>
<th>Liked (Mean (SD))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time 1</td>
<td>9.64 (1.50) (14)</td>
<td>13.13 (.91) (15)</td>
<td>16.80 (1.23) (10)</td>
</tr>
<tr>
<td>Time 2</td>
<td>9.83 (1.90) (12)</td>
<td>12.93 (.80) (15)</td>
<td>15.93 (1.00) (14)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Good Performance</th>
<th>Disliked (Mean (SD))</th>
<th>Neutral (Mean (SD))</th>
<th>Liked (Mean (SD))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time 1</td>
<td>9.00 (1.86) (12)</td>
<td>13.25 (.93) (16)</td>
<td>16.61 (1.26) (13)</td>
</tr>
<tr>
<td>Time 2</td>
<td>10.07 (0.80) (15)</td>
<td>13.31 (.85) (13)</td>
<td>16.85 (1.21) (13)</td>
</tr>
</tbody>
</table>

Note. N = 160. Standard deviations are in parentheses after the means and cell sizes are in parentheses below the means.
Table 6

Check on Performance Manipulation
### Table 6

**Summary of ANOVA for Performance Manipulation Check and Cell Descriptive Statistics**

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>F</th>
<th>Sig Of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance</td>
<td>140.83</td>
<td>1</td>
<td>49.44</td>
<td>.000</td>
</tr>
<tr>
<td>Confederate</td>
<td>12.56</td>
<td>3</td>
<td>1.47</td>
<td>.224</td>
</tr>
<tr>
<td>Confederate x</td>
<td>4.07</td>
<td>3</td>
<td>1.36</td>
<td>.669</td>
</tr>
<tr>
<td>Performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residual</td>
<td>555.43</td>
<td>195</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>710.68</td>
<td>202</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Poor Performance** | **Good Performance**

| Confederate 1       | 5.50 (2.23) (26) | 7.08 (1.32) (25) |
| Confederate 2       | 4.92 (2.04) (25) | 6.85 (1.79) (27) |
| Confederate 3       | 6.64 (1.47) (25) | 6.89 (1.69) (27) |
| Confederate 4       | 5.64 (1.50) (25) | 7.57 (1.08) (23) |

Note. N = 203. Standard deviations are in parentheses after the means and cell sizes are in parentheses below the means.
Table 7

Summary ANOVA of Task Expectation Measure
Table 7

Summary of ANOVA for Task Expectation Measure and Cell Descriptive Statistics

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>F</th>
<th>Sig Of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affect</td>
<td>289.54</td>
<td>1</td>
<td>18.65</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>1537.35</td>
<td>198</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1826.90</td>
<td>200</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Disliked</th>
<th>Neutral</th>
<th>Liked</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>16.46 (2.91)</td>
<td>17.09 (2.44)</td>
<td>19.28 (2.98)</td>
</tr>
<tr>
<td></td>
<td>(68)</td>
<td>(68)</td>
<td>(65)</td>
</tr>
</tbody>
</table>

Note. N = 201. Standard deviations are in parentheses after the means and cell sizes are in parentheses below the means.
Table 8

Summary ANOVA of A'

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 8
Summary ANOVA of Accuracy Measure, A', and Cell Descriptive Statistics

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>F</th>
<th>Sig of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affect</td>
<td>.01</td>
<td>2</td>
<td>.15</td>
<td>.857</td>
</tr>
<tr>
<td>Error Between</td>
<td>4.57</td>
<td>199</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item Type</td>
<td>.22</td>
<td>1</td>
<td>10.32</td>
<td>.002</td>
</tr>
<tr>
<td>Affect x Item Type</td>
<td>.01</td>
<td>2</td>
<td>.35</td>
<td>.706</td>
</tr>
<tr>
<td>Error Within</td>
<td>4.17</td>
<td>199</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item type</th>
<th>Disliked</th>
<th>Neutral</th>
<th>Liked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>.717 (.143)</td>
<td>.715 (.149)</td>
<td>.710 (.147)</td>
</tr>
<tr>
<td>Negative</td>
<td>.666 (.144)</td>
<td>.657 (.158)</td>
<td>.666 (.147)</td>
</tr>
</tbody>
</table>

Note. N = 202. Standard deviations are in parentheses after the means and cell sizes are in parentheses below the means.
Table 9
Summary ANOVA of A' With Performance as a Factor
Table 9
Summary of ANOVA for A' as a Function of Item Type, Affect, and Performance.

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>F</th>
<th>Sig Of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affect</td>
<td>.01</td>
<td>2</td>
<td>.14</td>
<td>.866</td>
</tr>
<tr>
<td>Performance</td>
<td>.02</td>
<td>1</td>
<td>.85</td>
<td>.358</td>
</tr>
<tr>
<td>Affect x Performance</td>
<td>.03</td>
<td>2</td>
<td>.72</td>
<td>.487</td>
</tr>
<tr>
<td>Error Between</td>
<td>4.52</td>
<td>196</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item Type</td>
<td>.22</td>
<td>1</td>
<td>10.75</td>
<td>.001</td>
</tr>
<tr>
<td>Affect x Item Type</td>
<td>.02</td>
<td>1</td>
<td>.48</td>
<td>.618</td>
</tr>
<tr>
<td>Perform x Item Type</td>
<td>.21</td>
<td>1</td>
<td>10.27</td>
<td>.002</td>
</tr>
<tr>
<td>Affect x Item Type x Performance</td>
<td>.02</td>
<td>2</td>
<td>.61</td>
<td>.546</td>
</tr>
<tr>
<td>Error Within</td>
<td>3.94</td>
<td>196</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Disliked Neutral Liked
Positive Items
Poor Perform .708 (.140) .687 (.143) .687 (.149)
(32) (36) (32)
Good Perform .724 (.147) .747 (.152) .705 (.147)
(36) (32) (34)
Negative Items
Poor Perform .684 (.139) .681 (.151) .716 (.140)
(32) (36) (32)
Good Perform .652 (.149) .630 (.164) .663 (.149)
(36) (32) (34)

Note. N = 202. Standard deviations are in parentheses after the means and cell sizes are in parentheses below the means.
Table 10

Summary ANOVA for False Positive and False Negatives
Table 10

Summary ANOVA for False Positives and False Negatives and Cell Descriptive Statistics.

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>F</th>
<th>Sig Of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affect</td>
<td>.73</td>
<td>2</td>
<td>.25</td>
<td>.776</td>
</tr>
<tr>
<td>Error Between</td>
<td>285.14</td>
<td>199</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item Type</td>
<td>14.06</td>
<td>1</td>
<td>9.50</td>
<td>.002</td>
</tr>
<tr>
<td>Affect x Item Type</td>
<td>27.88</td>
<td>2</td>
<td>9.42</td>
<td>.000</td>
</tr>
<tr>
<td>Error Within</td>
<td>294.57</td>
<td>199</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Disliked</th>
<th>Neutral</th>
<th>Liked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Items</td>
<td>1.77 (1.29)</td>
<td>1.91 (1.23)</td>
</tr>
<tr>
<td></td>
<td>(68)</td>
<td>(68)</td>
</tr>
<tr>
<td>Negative Items</td>
<td>1.99 (1.14)</td>
<td>1.63 (1.29)</td>
</tr>
<tr>
<td></td>
<td>(68)</td>
<td>(68)</td>
</tr>
</tbody>
</table>

Note. N = 202. Standard deviations are in parentheses after the means and cell sizes are in parentheses below the means.
Table 11

Summary ANOVA for Percent Confident Index
Table 11

Summary ANOVA for Percent Confident Index and Cell

Descriptive Statistics.

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>F</th>
<th>Sig of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affect</td>
<td>.02</td>
<td>2</td>
<td>.35</td>
<td>.703</td>
</tr>
<tr>
<td>Error Between</td>
<td>6.16</td>
<td>198</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item Type</td>
<td>.04</td>
<td>1</td>
<td>1.21</td>
<td>.272</td>
</tr>
<tr>
<td>Affect x Item Type</td>
<td>.51</td>
<td>2</td>
<td>8.03</td>
<td>.000</td>
</tr>
<tr>
<td>Error Within</td>
<td>6.24</td>
<td>198</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Disliked</th>
<th>Neutral</th>
<th>Liked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Items</td>
<td>.227 (.175)</td>
<td>.236 (.163)</td>
<td>.313 (.181)</td>
</tr>
<tr>
<td></td>
<td>(67)</td>
<td>(68)</td>
<td>(66)</td>
</tr>
<tr>
<td>Negative Items</td>
<td>.279 (.149)</td>
<td>.242 (.204)</td>
<td>.197 (.185)</td>
</tr>
<tr>
<td></td>
<td>(67)</td>
<td>(68)</td>
<td>(66)</td>
</tr>
</tbody>
</table>

Note. N = 201. Standard deviations are in parentheses after the means and cell sizes are in parentheses below the means.
Table 12
Summary ANOVA for Response Bias Measure, B''
Table 12

Summary ANOVA for Response Bias Measure, $B''$, and Cell Descriptive Statistics.

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>F</th>
<th>Sig Of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affect</td>
<td>.15</td>
<td>2</td>
<td>.31</td>
<td>.736</td>
</tr>
<tr>
<td>Error Between</td>
<td>49.78</td>
<td>199</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item Type</td>
<td>1.31</td>
<td>1</td>
<td>5.42</td>
<td>.021</td>
</tr>
<tr>
<td>Affect x Item Type</td>
<td>3.93</td>
<td>2</td>
<td>8.11</td>
<td>.000</td>
</tr>
<tr>
<td>Error Within</td>
<td>48.20</td>
<td>199</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Disliked</th>
<th>Neutral</th>
<th>Liked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Items</td>
<td>.087 (.528)</td>
<td>.028 (.489)</td>
<td>-.134 (.477)</td>
</tr>
<tr>
<td></td>
<td>(68)</td>
<td>(68)</td>
<td>(66)</td>
</tr>
<tr>
<td>Negative Items</td>
<td>-.031 (.460)</td>
<td>.123 (.490)</td>
<td>.231 (.530)</td>
</tr>
<tr>
<td></td>
<td>(68)</td>
<td>(68)</td>
<td>(66)</td>
</tr>
</tbody>
</table>

Note. $N = 202$. Standard deviations are in parentheses after the means and cell sizes are in parentheses below the means.
Table 13

Summary ANOVA for True Positives and True Negatives
Table 13

Summary ANOVA for True Positives and True Negatives and Cell Descriptive Statistics.

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>F</th>
<th>Sig Of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affect</td>
<td>.06</td>
<td>2</td>
<td>.84</td>
<td>.432</td>
</tr>
<tr>
<td>Error Between</td>
<td>7.66</td>
<td>199</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item Type</td>
<td>3.62</td>
<td>1</td>
<td>54.08</td>
<td>.000</td>
</tr>
<tr>
<td>Affect x Item Type</td>
<td>.61</td>
<td>2</td>
<td>4.57</td>
<td>.011</td>
</tr>
<tr>
<td>Error Within</td>
<td>13.34</td>
<td>199</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Disliked</th>
<th>Neutral</th>
<th>Liked</th>
</tr>
</thead>
<tbody>
<tr>
<td>True Positives</td>
<td>.638 (.221)</td>
<td>.668 (.199)</td>
<td>.705 (.216)</td>
</tr>
<tr>
<td></td>
<td>(68)</td>
<td>(68)</td>
<td>(66)</td>
</tr>
<tr>
<td>True Negatives</td>
<td>.548 (.267)</td>
<td>.472 (.256)</td>
<td>.423 (.210)</td>
</tr>
<tr>
<td></td>
<td>(68)</td>
<td>(68)</td>
<td>(66)</td>
</tr>
</tbody>
</table>

Note. N = 202. Standard deviations are in parentheses after the means and cell sizes are in parentheses below the means.
Table 14

Summary ANOVA for Global Performance Ratings
### Table 14

**Summary ANOVA For Global Performance Ratings and Cell Descriptive Statistics.**

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>F</th>
<th>Sig Of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affect</td>
<td>6011.26</td>
<td>2</td>
<td>17.77</td>
<td>.000</td>
</tr>
<tr>
<td>Performance</td>
<td>10507.04</td>
<td>1</td>
<td>62.11</td>
<td>.000</td>
</tr>
<tr>
<td>Affect x Perform</td>
<td>1258.85</td>
<td>2</td>
<td>3.72</td>
<td>.026</td>
</tr>
<tr>
<td>Residual</td>
<td>32311.00</td>
<td>191</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>50415.51</td>
<td>196</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Disliked</th>
<th>Neutral</th>
<th>Liked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor Perform</td>
<td>49.16 (11.52)</td>
<td>59.89 (11.59)</td>
<td>63.69 (10.89)</td>
</tr>
<tr>
<td></td>
<td>(32)</td>
<td>(36)</td>
<td>(29)</td>
</tr>
<tr>
<td>Good Perform</td>
<td>66.69 (11.27)</td>
<td>66.90 (13.73)</td>
<td>78.09 (12.03)</td>
</tr>
<tr>
<td></td>
<td>(35)</td>
<td>(31)</td>
<td>(34)</td>
</tr>
</tbody>
</table>

Note. N = 197. Standard deviations are in parentheses after the means and cell sizes are in parentheses below the means.
Table 15

Summary ANOVA for Global Expectations
Table 15

Summary ANOVA For Global Expectations and Cell

Descriptive Statistics.

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>F</th>
<th>Sig Of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affect</td>
<td>116.60</td>
<td>2</td>
<td>5.62</td>
<td>.004</td>
</tr>
<tr>
<td>Performance</td>
<td>471.38</td>
<td>1</td>
<td>45.45</td>
<td>.000</td>
</tr>
<tr>
<td>Affect x Perform</td>
<td>46.63</td>
<td>2</td>
<td>2.25</td>
<td>.108</td>
</tr>
<tr>
<td>Residual</td>
<td>1981.01</td>
<td>191</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2625.98</td>
<td>196</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Disliked</th>
<th>Neutral</th>
<th>Liked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor Perform</td>
<td>16.84 (3.37)</td>
<td>18.81 (3.04)</td>
<td>19.62 (3.89)</td>
</tr>
<tr>
<td></td>
<td>(32)</td>
<td>(36)</td>
<td>(29)</td>
</tr>
<tr>
<td>Good Perform</td>
<td>21.26 (3.04)</td>
<td>20.94 (3.03)</td>
<td>22.35 (2.97)</td>
</tr>
<tr>
<td></td>
<td>(35)</td>
<td>(31)</td>
<td>(34)</td>
</tr>
</tbody>
</table>

Note. N = 197. Standard deviations are in parentheses after the means and cell sizes are in parentheses below the means.
Table 16

Correlations and Descriptive Statistics for All Variables
Table 16
Correlations, Means, Std. Dev's, and Reliabilities
for all Variables.

<table>
<thead>
<tr>
<th>IJS</th>
<th>TASKEXP</th>
<th>GLOBRATE</th>
<th>ATTRIBI</th>
<th>ATTRIBE</th>
<th>GLOBEXP</th>
<th>PERFORM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IJS</td>
<td>.80</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TASKEXP</td>
<td>.42**</td>
<td>.70</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GLOBRATE</td>
<td>.41**</td>
<td>.31**</td>
<td>.89</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATTRIBI</td>
<td>.15</td>
<td>.11</td>
<td>.34**</td>
<td>.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATTRIBE</td>
<td>.11</td>
<td>.10</td>
<td>.12</td>
<td>.45**</td>
<td>.54</td>
<td></td>
</tr>
<tr>
<td>GLOBEXP</td>
<td>.28**</td>
<td>.32**</td>
<td>.70**</td>
<td>.43**</td>
<td>.23**</td>
<td>.81</td>
</tr>
<tr>
<td>PERFORM</td>
<td>.02</td>
<td>.01</td>
<td>.44**</td>
<td>.11</td>
<td>.01</td>
<td>.42**</td>
</tr>
</tbody>
</table>

Mean 13.02 18.58 64.16 18.69 16.37 19.99 .502
SD 3.08 3.02 14.08 4.48 4.74 3.63 .501

NOTE. * < .01  ** < .001. N = 201. Reliabilities are on main diagonal.
Table 17

Regression Results from Path Analysis
<table>
<thead>
<tr>
<th>Dependent Variables</th>
<th>Independent Variables</th>
<th>Task Performance Expectancy</th>
<th>Performance Rating</th>
<th>External Attrib.</th>
<th>Internal Attrib.</th>
<th>Global Expectancy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Perform Manip.</td>
<td>---</td>
<td>.45 ***</td>
<td>---</td>
<td>---</td>
<td>.16 **</td>
</tr>
<tr>
<td></td>
<td>IJS (AFFECT)</td>
<td>.43 ***</td>
<td>.33 ***</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>Task Expectancy</td>
<td>.16 **</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>.13 *</td>
</tr>
<tr>
<td></td>
<td>Performance Rating</td>
<td>---</td>
<td>.382 ***</td>
<td>.53 ***</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>External Attribution</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Internal Attribution</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.178 **</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R²</td>
<td></td>
<td>.184</td>
<td>.409</td>
<td>.029</td>
<td>.124</td>
<td>.601</td>
</tr>
</tbody>
</table>

Note 1: * < .05, ** < .01, *** < .001
Note 2: Numbers represent standardized beta coefficients.
Table 18

Effects from Path Analysis
## Table 18

### Direct, Indirect, and Total Effects from Path Analysis

#### THE MATRIX OF DIRECT EFFECTS (STANDARDIZED):

<table>
<thead>
<tr>
<th>FROM:</th>
<th>Global</th>
<th>TO: Expectancy</th>
<th>Like</th>
<th>Internal</th>
<th>External</th>
<th>Perform</th>
<th>Task rating</th>
<th>Expect.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intern</td>
<td>0.178***</td>
<td>0.066</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extern</td>
<td>0.072</td>
<td>0.010</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peall</td>
<td>0.529***</td>
<td>0.090</td>
<td>0.382***</td>
<td>0.131</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taskexp</td>
<td>0.130*</td>
<td>0.059</td>
<td>-0.011</td>
<td>0.049</td>
<td>0.163**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IJS</td>
<td>-0.030</td>
<td>0.630***-0.001</td>
<td></td>
<td>0.038</td>
<td>0.328***</td>
<td>0.425***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perform</td>
<td>0.159**</td>
<td>0.043</td>
<td>-0.062</td>
<td>-0.057</td>
<td>0.448***-0.001</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### THE MATRIX OF INDIRECT EFFECTS (STANDARDIZED):

<table>
<thead>
<tr>
<th>FROM:</th>
<th>Internal</th>
<th>0.001</th>
<th>Extern</th>
<th>0.000</th>
<th>Peall</th>
<th>0.080**</th>
<th>Taskexp</th>
<th>0.102**</th>
<th>IJS</th>
<th>0.313***</th>
<th>0.072*</th>
<th>Perform</th>
<th>0.258***</th>
<th>0.047</th>
<th>0.171***</th>
<th>0.059</th>
<th>0.000</th>
<th>0.000</th>
</tr>
</thead>
</table>

#### THE MATRIX OF TOTAL CAUSAL EFFECTS (STANDARDIZED):

<table>
<thead>
<tr>
<th>FROM:</th>
<th>Internal</th>
<th>Extern</th>
<th>Peall</th>
<th>Taskexp</th>
<th>IJS</th>
<th>Perform</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.179</td>
<td>0.066</td>
<td>0.072</td>
<td>0.609</td>
<td>0.232</td>
<td>0.282</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.010</td>
<td>0.117</td>
<td>0.078</td>
<td>0.078</td>
<td>0.702</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.382</td>
<td>0.051</td>
<td>0.146</td>
<td>0.109</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.131</td>
<td>0.071</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.163</td>
<td>0.448</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.001</td>
</tr>
</tbody>
</table>

Note. * < .05, ** < .01, *** < .001.
Appendix L

Figures
Figure 1
Generic Processing Model
Affect

Encoding \(\rightarrow\) Storage \(\rightarrow\) Retrieval \(\rightarrow\) Evaluation
Figure 2

A Categorization-Based Process Model
Figure 3
An Affective-Based Process Model
Affect

Categorization

Encoding ---+ Storage ---+ Retrieval ---+ Evaluation
Figure 4.

Affect by Time Interaction.
Affect

---

<table>
<thead>
<tr>
<th>Liked</th>
<th>Disliked</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.6</td>
<td>14.4</td>
</tr>
<tr>
<td>13.2</td>
<td>12.0</td>
</tr>
<tr>
<td>11.0</td>
<td>10.8</td>
</tr>
<tr>
<td>9.6</td>
<td>9.2</td>
</tr>
<tr>
<td>8.4</td>
<td>8.0</td>
</tr>
<tr>
<td>7.2</td>
<td>6.0</td>
</tr>
</tbody>
</table>

Pre-observation  Post-observation
Timing Set

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189
Figure 5.
Affect by Confederate Interaction.
Dissimilar Attitude

Similar Attitude

IUS Summary Scores

Confed 1
Confed 2
Confed 3
Confed 4
Figure 6.

Affect by Item Type Interaction.

Frequency of Non-Presented Items
Figure 7.

Affect by Item Type Interaction.

Response Bias Measure ($B''$)
Figure 8.

Affect by Performance Interaction.

Performance Ratings
Figure 9.

Affect by Performance Interaction.

Global Expectations
Global Expectations Summary Score

Disliked  Neutral  Liked

Affect

_ Good Performance
_ Poor Performance
Figure 10.
Path Model
The ___ page vita has been removed from the scanned document
The 7 page vita has been removed from the scanned document
The ___ page vita has been removed from the scanned document
The 7 page vita has been removed from the scanned document.
The ___ page vita has been removed from the scanned document
The 7 page vita has been removed from the scanned document
The page vita has been removed from the scanned document.