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The Effects of Observers' Mood on Causal Attributions for Other's Behavior

Michael J.L. Sullivan

A Thesis

in

The Department

of

Psychology

Presented in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy at
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ABSTRACT

The Effects of Observers' Mood on Causal Attributions for Other's Behavior

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Concordia University, 1987

Based on research showing that negative mood reduces cognitive effort expenditure, it was predicted that negative mood would lead to low effort attributional processing. In Experiments 1 and 2, mood was induced by asking subjects to describe positive, neutral, or negative life events drawn from their own past. Subjects then listened to descriptions of positive and negative social behaviors and indicated possible causes for the behaviors. Attributions were coded as dispositional (e.g., traits), non-dispositional (e.g., intentions), or situational (e.g., external circumstances) to reflect varying degrees of effortful processing. Correspondent dispositional attributions were considered as low effort attributions, and non-dispositional and situational attributions were considered as high effort attributions. As hypothesized, the results of Experiments 1 and 2 showed that subjects in the negative mood condition generated significantly more correspondent dispositional attributions than subjects in the positive or neutral mood conditions for both positive and negative behaviors. Results also showed that subjects' non-dispositional and situational

attributions for the negative behaviors tended to be affectively congruent with their mood state. Experiment 3 compared depressed and non-depressed subjects' attributions for the same target behaviors. The results of this experiment were consistent with Experiments 1 and 2 in that depressed subjects generated significantly more correspondent dispositional attributions than non-depressed subjects for both positive and negative behaviors. The valence of non-dispositional and situational attributions was congruent with subjects' chronic mood. The present research is consistent with the view that attributions vary with respect to cognitive effort, and that negative mood leads to low effort attributional processing. The implications of these findings for theories of depressives' attributional style are examined. Issues related to the role of cognitive priming as a determinant of mood effects on cognition are also discussed.

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Causal reasoning has been conceptualized as an integral part of comprehension. It is argued that only by making causal inferences about the relation between observed events can individuals derive a sense of meaning or understanding from their observations (Black, Galambos, & Read, 1984; Heider, 1958; Read, 1987; Schank & Abelson, 1977). A tenet of this position is that causal reasoning occurs spontaneously during the process of perception (Heider, 1958; Kassin & Baron, 1985; Sherman & Titus, 1982). It has also been suggested however, that under certain conditions, individuals may engage in a more deliberate search for causal explanations (Hansen, 1985; Kassin & Baron, 1985; Weiner, 1985).

Recent models of causal reasoning have discussed spontaneous and deliberate causal analyses with reference to the distinction between automatic and effortful cognitive processing (Kassin & Baron, 1985). Automatic processes are generally defined as mental operations which occur spontaneously without conscious deliberation. Some automatic processes are considered to be innate while others are said to develop as a function of experience. Effortful or controlled cognitive processes refer to mental operations which occur with intention and awareness (Hasher & Zacks, 1979; Posner & Snyder, 1975; Schneider & Shiffrin, 1977). Mental operations are said to vary along a continuum ranging from most automatic to most effortful (Hasher & Zachs, 1979).

It has been suggested that causal reasoning represents a basic or automatic process of perception (Kassin & Baron, 1985; Read, 1987). Stimulus features which give rise to the perception of causality include spatial-temporal contiguity and perceptual salience (Kassin & Baron, 1985; Taylor & Fiske, 1978). When two events coincide in space and time, the antecedent event is perceived as causally related to the resultant effect. When multiple events co-occur, the stimuli which are most salient tend to be perceived as causal (Taylor & Fiske, 1978). The relative salience of a stimulus is considered to be a function of the degree to which the stimulus draws the perceiver's attention. Factors such as movement, brightness, loudness, and complexity contribute to stimulus salience. Based on evidence showing that children from a very young age are sensitive to contiguity and salience information, it has been suggested that individuals are biologically prepared to perceive causal relationships among observed events (Kassin, 1981; Kassin & Baron, 1986). Thus, causal reasoning may be an innate automatic process.

In social situations, the stimulus properties of contiguity and salience may lead observers to focus on general characteristics of the individual executing actions as being causally relevant to the specific actions. Indeed, some investigators have proposed that dispositional inferences may be made automatically during the perception of

behavior (Smith & Miller, 1983). More specifically, dispositional inferences that are correspondent are assumed to be automatic. Correspondence refers to the degree to which a behavior and an actor's disposition can be described by the same inference (e.g., a hostile behavior is performed by a hostile person). Dispositional attributions require inferential activity based on acquired knowledge, and thus are likely to become automatic as a function of repeated experience with social stimuli. While the process of causal reasoning may be considered innately automatic, specific attributions to dispositional characteristics would constitute a process that becomes automatized through learning.

Findings showing that correspondent dispositional inferences are retrieved or processed as if they had been part of input information have been interpreted as supportive of automaticity. The assumption is that inferences which are made spontaneously during comprehension will be represented in memory along with other input information. Thus, when subjects respond to questions about actors' inferred correspondent traits (i.e., Does 'hostile' describe the person in the sentence?) as quickly as they respond to questions about factual input information (i.e., Is the person in the sentence 'male'?), it has been taken as evidence for the automaticity of dispositional inferences (Smith, 1984; Smith & Miller, 1983).

Other findings suggest that correspondent dispositional inferences meet certain criteria necessary for classification as automatic processes. Automatic processes are expected to function at a constant level and thus, they should not be disrupted by other ongoing cognitive activity, nor should they show significant improvement when subjects are specifically instructed to perform the process (Hasher & Zacks, 1979). It has been shown that correspondent trait terms serve as effective cues for the recall of behavioral information even when the trait terms are not included as part of the presented information (Winter & Uleman, 1984). In this research, the cueing effectiveness of trait terms was not adversely affected by manipulations which placed demands of attentional capacity (e.g., rehearsal of digit strings), and was not improved by instructions to attend to actors' dispositional characteristics (Winter, Cunniff, & Uleman, 1984).

Research on the effects of salience on causal attributions for social behavior has also been cited as evidence for the automaticity of correspondent dispositional inferences (Taylor & Fiske, 1978). It has been shown that when several actors are observed engaging in conversation, the behavior of salient actors (e.g., actors seated under a bright light) is perceived as more dispositionally determined than the behavior of non-salient actors (McArthur & Post, 1977). This effect persists even when observers are highly

distracted from the verbal content of the situation (Taylor, Crocker, Fiske, Sprinzen, & Winkler, 1979).

The contention that correspondent dispositional inferences are made automatically during comprehension has recently been challenged by findings showing that the inference process improves with instruction (Bassili & Smith, 1986). Using a paradigm similar to that employed by Winter & Uleman (1984), these investigators demonstrated that when subjects were informed that they would be required to recall behavioral information, instructions to attend to actors' dispositional characteristics led to significant improvement in the cueing effectiveness of trait terms. In light of these findings, the investigators concluded that correspondent trait inferences did not meet the criteria for automatic processes.

Research on the automaticity of dispositional inferences has served to highlight some important issues concerning the defining criteria of automatic processes. Implicit in the studies cited above is the notion that cognitive processes can be dichotomized as either automatic or non-automatic. This notion has also been reflected in theoretical discussions of cognitive processing where a primary concern has been the establishment of classification criteria for automaticity (Bargh, 1984; Hasher & Zacks, 1979; Posner & Snyder, 1975). Although some investigators have suggested that cognitive processes vary along a continuum of cognitive

effort (or attentional requirements), the emphasis on classification criteria has fostered the perspective that cognitions vary in categorical rather than quantitative terms. It is important to note that these criteria are based primarily on theory and, at present, there is little consensus about the necessary and sufficient conditions for defining cognitive processes as automatic (Bargh, 1984; Fisk, 1986; Hasher & Zacks, 1984; Schneider & Fisk, 1982; Zacks, Hasher, & Hock, 1986). In light of these considerations, it may be premature to draw conclusions about the automaticity of dispositional inferences. Rather, a more informative approach may be to examine the relative degree of cognitive effort required to make different types of causal inferences.

There is evidence to suggest that correspondent dispositional inferences require minimal effort. First, the findings which have been cited as supportive of the automaticity of dispositional inferences are consistent with the position that these inferences require minimal effort (Smith & Miller, 1983; Winter & Uleman, 1984). In addition, numerous investigations have shown that individuals have a pervasive tendency to make correspondent dispositional inferences for observed behavior (e.g., Jones & Nisbett, 1972). The tendency to infer dispositional causation for observed behavior has been demonstrated even under conditions where an actor's behavior is obviously constrained by situational factors (Jones, 1979; Jones & Harris, 1967; Jones

& McGillis, 1976). This effect has also been demonstrated when subjects themselves are the source of situational constraint on an actor's behavior (Gilbert & Jones, 1986). The tendency to emphasize dispositional over situational causation for observed behavior has been termed correspondence bias (Gilbert & Jones, 1986).

Theoretical accounts of correspondence bias have emphasized the minimal processing requirements of correspondent dispositional inferences. For example, one position states that observers begin the attribution process by drawing correspondent inferences which may then be adjusted through consideration of situational variables (Ajzen, Dalto, & Blyth, 1979; Quattrone, 1982). The implication is that dispositional attributions are made automatically but may subsequently be discounted in favor of situational explanations. Other positions posit that the basic process of comprehending a behavior provides the information necessary to make a correspondent inference (Hansen, 1985). Once a behavior has been categorized along a particular dimension (e.g., hostility), the same category can be applied to the actor's disposition. Situational attributions, on the other hand, cannot be inferred directly from behavior. Situational attributions require the processing of additional environmental information (Hansen, 1985; Higgins & Bryant, 1982). These arguments suggest that situational or non-correspondent attributions require more

cognitive effort than correspondent dispositional attributions. While there is research to support the contention that correspondent dispositional attributions require minimal processing effort, the effort requirements of situational or non-correspondent attributions have not been examined empirically.

In sum, individuals have a pervasive tendency to make correspondent dispositional inferences for observed behavior. Dispositional inferences may be made spontaneously during comprehension and may be represented in memory along with actual event information. The available data suggest that correspondent dispositional inferences require minimal effort. Situational attributions or non-correspondent attributions may require more effort. Thus, causal attributions may be conceptualized as varying along a continuum of cognitive effort.

Causal attributions which vary according to effort requirements should be differentially influenced by factors which affect cognitive effort expenditure. Research examining the effects of mood on cognition is relevant to this hypothesis. For example, it has been suggested that the memory deficits associated with depression may be attributed to the inefficient use of effortful encoding strategies (Hasher & Zacks, 1979). Consistent with this contention, it has been shown that depressed subjects are impaired in their ability to use clustering strategies to facilitate recall

(Weingartner, Cohen, Murphy, Martello, & Gerdt, 1981). In addition, depressives are less able to sustain effort on cognitive tasks, and their performance deteriorates rapidly as task complexity increases (Silberman, Weingartner, & Post, 1983; Cohen, Weingartner, Smallberg, Pickar, & Murphy, 1982). Similar findings have been reported in research examining the effects of experimentally induced negative mood on memory processes (Ellis, Thomas, & Rodriguez, 1984; Leight & Ellis, 1981). In contrast, positive mood states have been associated with enhanced performance on tasks requiring cognitive effort (Masters, Barden, & Ford, 1979; Mitchell & Madigan, 1984). There is also evidence to suggest that positive mood is associated with the increased use of heuristic cues in decision making tasks, and the use of broad and inclusive categories in classification tasks (Isen, Means, Patrick, & Nowicki, 1982; Worth & Mackie, 1987). However, it is unclear how heuristic processing and breadth of categorization are related to effort expenditure.

The purpose of the present research was to examine the effects of mood on social inference processes. The hypothesis was that as a function of reduced effort expenditure, subjects in a negative relative to positive mood would be more likely to generate low effort correspondent dispositional attributions for observed behavior. Subjects in a positive mood should generate more effortful non-dispositional or situational attributions than subjects in a

negative mood.

Mood may also influence the affective valence of attributions. This prediction follows from research which indicates that cognition tends to be affectively congruent with a person's current mood state (Blaney, 1986; Johnson & Magaro, 1987). Mood-congruency effects have been observed for subjects' recall of valenced material as well as for judgment tasks involving the interpretation and evaluation of stimuli, expectancies for positive and negative outcomes, and self-efficacy judgments (Bower, 1981; Forgas, Bower, & Krantz, 1984; Johnson & Tversky, 1983; Kavanagh & Bower, 1985; Wright & Mischel, 1982). Mood-congruency effects have been observed for experimentally induced mood states as well as for chronic states of depression (Bower, Gilligan, & Monteiro, 1981; Lloyd & Lishman, 1975; McDowall, 1984; Teasdale & Fogarty, 1979).

Theoretical accounts of mood-congruency effects have been stated in terms of network theory. Bower (1981) has proposed that mental representations of emotional states become associatively linked in memory with information about events which co-occurred with the emotional experience. Knowledge structures or schemata which contain emotional memories are then activated by the subsequent experience of the same emotion and rendered more accessible to consciousness. The increased accessibility of mood-congruent information increases the probability that this information

will be brought to bear in the assimilation and processing of new information.

Network theory has also been applied to the study of social inferences. Social knowledge structures are activated by stimulus features of observed behavior and provide the information necessary for the construction of a coherent mental representation of the observed event (Read, 1987). Social knowledge structures are said to develop through experience and contain person category information, exemplars of typical behaviors, and information about the possible causes of behavior. An additional feature of these structures is that they limit the range of information which will be considered in making causal inferences about specific behaviors (Kruglanski, 1980; Reeder, 1985; Reeder & Brewer, 1979).

Although event characteristics are considered to be the primary determinants of schema activation, prior activation of schemata, through category (cognitive) priming, may also influence the inferences which are made for observed behavior. It has been shown that when subjects are exposed to trait terms in the course of performing one task, these terms are more likely to be used to encode subsequent behavioral information about a person in an unrelated task (Srull & Wyer, 1979). The effects of cognitive priming are observed primarily under conditions where the primed category is applicable to the information being encoded (Higgins,

Rholes, & Jones, 1977).

Mood may influence the valence of attributions through summation effects of activated schemata. The prior activation of schemata as a function of mood state will render mood-congruent information more accessible to consciousness. When a behavior is subsequently observed, social knowledge structures will also be activated. To the extent that information within social knowledge structures is valenced, causal inferences which are affectively congruent with mood will be most accessible to consciousness.

To summarize, it is hypothesized that mood will influence social inference processes through its effects on cognitive effort expenditure and through its effects on schema activation. A negative mood should lead to reduced effort expenditure on the part of subjects and in turn make them more likely to generate correspondent dispositional attributions for observed behavior than would be the case for subjects in a positive mood. As a function of the activation of mood-congruent schemata, the valence of subjects' attributions should be congruent with their current mood. In previous research, mood effects on effort expenditure and schema activation have been examined separately. Therefore, it remains unclear whether these represent two distinct effects of mood, or whether they are variants of the same process. It will be shown that, within an attribution paradigm, it is possible to examine conditions under which

the two hypotheses predict different results.

In the present research, subjects listened to behavior descriptions and were asked to generate several possible causes for the behaviors. The rationale for requesting several causes was to encourage effortful attributional processing. Since subjects typically provide dispositional (low effort) attributions for behavior when a single attribution is requested, manipulations aimed at reducing cognitive effort would be unlikely to show an effect (Brewin & Harris, 1985; Fiske, Kenny, & Taylor, 1982; Sweeney, Shaeffer, & Golin, 1982). Under conditions where subjects are expected to produce several causes, they may be more likely to generate a wide range of attributions (Read, 1987). Subjects in a negative relative to positive mood may be less likely to consider attributions which require effort, and may thus generate more low effort attributions. The use of an open-ended response format allowed for the coding of subjects' attributions in terms of type (e.g., dispositional, situational) as well as valence (e.g., positive, negative).

Behavior descriptions were constructed depicting either evaluatively positive (e.g., helping, giving) or negative (e.g., refusal to help, hostility) behaviors. Although research shows that mood-congruency effects are more pronounced when stimuli are ambiguous, the use of valenced stimuli made it possible to examine conditions under which the effort and congruency hypotheses led to different

predictions. For example, the effort hypothesis predicts that subjects in a negative relative to positive mood will generate more correspondent dispositional attributions for both positive and negative behaviors. The mood-congruency hypothesis predicts that the affective tone of attributions will correspond to subjects' mood. In response to negative behaviors, both hypotheses yield consistent predictions. The effort hypothesis holds that subjects in a negative relative to positive mood will make more, negative, correspondent dispositional attributions for negative behaviors, and the mood-congruency hypothesis predicts that subjects in a negative mood will make more negative attributions of various kinds including dispositional. In response to positive behaviors, the two hypotheses yield different predictions. The effort hypothesis predicts that subjects in a negative mood will make more, positive, correspondent dispositional attributions for positive behaviors than subjects in a positive mood. In other words, subjects in a negative mood should generate dispositional attributions for positive behaviors which are affectively congruent with the behaviors rather than their current mood. The mood-congruency hypothesis suggests that subjects in a negative mood should generate dispositional attributions which are congruent with their current mood.

An additional advantage of using valenced behavior descriptions is that research has shown that negative

behaviors are more likely to be attributed to non-dispositional or situational causes while positive behaviors are explained in terms of dispositional causes (Anderson, 1983; Miller & Ross, 1975; Weiner, 1985). Thus, the effects of reduced effort associated with negative mood may be more evident in response to negative behaviors, and the effects of increased effort due to positive mood may be more evident in response to positive behaviors.

The effects of mood on causal attributions for observed social behavior were examined in three experiments. Experiments 1 and 2 compared the effects of experimentally induced positive and negative mood on subjects' attributions. Experiment 3 compared the causal attributions of subjects who differed with respect to level of depression, and thus in terms of chronic mood.

EXPERIMENT 1

A mood induction procedure was used to generate positive, neutral, and negative mood states. The neutral mood condition was included as a baseline for examining independently the magnitude of effects of positive versus negative mood. Subjects then listened to behavior descriptions and listed several possible causes for each behavior. All attributions were coded as dispositional, non-dispositional, or situational. These attribution categories were chosen to reflect differences in effortful attributional processing, with dispositional attributions requiring the

least effort and non-dispositional and situational attributions requiring more effort (Hansen, 1985; Smith & Miller, 1983). These causal categories generally correspond to the causal categories which have been adopted in previous research examining attributions for social behavior (Anderson, 1983; Elig & Frieze, 1974).

It was predicted that subjects in the negative mood condition would generate a higher frequency of correspondent dispositional inferences than subjects in a positive or neutral mood. Reductions in effort expenditure associated with negative mood may also be reflected in a lower frequency of non-correspondent or situational attributions. Subjects in a positive mood should generate a higher frequency of non-dispositional or situational attributions than subjects in a negative or neutral mood. It was also predicted that the affective tone of subjects' non-dispositional and situational attributions would be congruent with their mood state. In light of the pervasiveness of correspondence bias, it is possible that mood will not influence the affective valence of dispositional attributions.

Method

Subjects

Thirty one undergraduates, 14 men and 17 women, were recruited from a voluntary subject pool at Concordia University. Subjects were not paid for their participation. The mean age of the sample was 21.2 years with a range of 18 to 32 years. Subjects were randomly assigned to either positive mood (n = 11), neutral mood (n = 10), or negative mood (n = 10) conditions. Subjects were tested in small groups ranging in size from 2 to 5. All mood conditions were represented in most testing sessions.

Materials

Behavior Descriptions. Subjects listened to 4 audiotaped behavior descriptions (Appendix D). The behavior descriptions were constructed for the present study and depicted two positive and two negative interpersonal scenarios. All subjects first heard the description of a negative behavior, followed by a positive behavior, another negative behavior, and another positive behavior, in the same sequence. The first two behavior descriptions were narrated by a male voice, and the last two were narrated by a female voice.

Mood Induction. Mood was induced by asking subjects to describe, vividly, emotional life experiences drawn from their own past. Vivid autobiographical recall has been shown to produce significant changes in mood as assessed by self-report and physiological measures (Brewer, Doughtie, & Lubin, 1980; Lang, 1979; Sirota & Schwartz, 1982). In order to reduce the potential confounds of experimental demand related to mood (Blaney, 1986), subjects were told that recall was being assessed to examine age differences in memory for detail. The memory task consisted of describing, in detail, two recent emotional experiences. In the positive mood condition, subjects were asked to describe two recent experiences which made them feel "really good", subjects in the negative mood condition were asked to describe two recent experiences which made them feel "really bad", and subjects in the neutral mood condition described two different routes they used to get to school or work. Subjects were randomly assigned to condition by the instructions printed on the response booklets that they were given (Appendix B). Subjects were given 8 minutes to write about each experience.

Procedure

The author, who was blind to experimental condition, explained that the study was designed to examine age differences in memory for detail and social judgment (Appendix A). Subjects were then asked to complete the life

event memory task. Following the life event memory task, subjects were told that they would now listen to descriptions of interpersonal behavior. Each behavior description was followed by a question concerning the possible causes of the behavior. Subjects were asked to write down their responses in the booklet provided (Appendix C). Subjects were given three minutes to write their attributional responses for each behavior.

At the conclusion of the experiment, subjects were asked to complete a mood questionnaire. They were told that, as part of an unrelated validational study, normative data were being collected for this questionnaire. Subjects were asked to rate their present mood on 15 unipolar likert scales which contained 8 positive and 7 negative mood adjectives with the end points not at all (1) and extremely (9) (Appendix E). The adjectives were drawn from a mood scale used by McFarland & Ross (1982). Subjects were then debriefed and thanked for their participation. During debriefing, no subject reported being aware that the three experimental tasks (i.e., memory task, social judgment task, and mood self-report) were related, or that the memory task was intended as a mood induction.

Results

The overall design of the study was a three-way mixed factorial with mood condition (positive, neutral, negative) and sex of subject (male, female) as the between-groups factors, and behavior descriptions as the within-groups factor (positive behaviors, negative behaviors). There were no significant gender by condition interactions for any of the analyses, and thus, the data are reported collapsed across the gender factor. Multiple comparisons were performed using the Newman Keuls procedure (Ferguson, 1976).

Manipulation Check. A cluster analysis was performed on the mood questionnaire items. Two major clusters emerged, one for positive mood and one for negative mood. Within the positive cluster, responses to adjectives with inter-item correlations greater than .40 were averaged to produce a measure of positive mood. The same procedure was used to produce a measure of negative mood. A single mood score was computed by subtracting the negative mood score from the positive mood score. Higher scores indicate more positive mood. A one-way analysis of variance (ANOVA) on the mood scores revealed a significant effect due to mood condition, $F(2,27) = 3.2$, $p < .05$. A planned comparison indicated that subjects in the negative mood condition ($M = 1.5$) reported more negative mood than subjects in the positive ($M = 3.6$) or neutral ($M = 3.1$) conditions, $t(29) = 3.7$, $p < .01$. The

positive and neutral mood conditions did not differ significantly from each other.

Attributions. Subjects' responses were coded into one of the following attribution categories; 1) dispositional (e.g., stable, internal characteristics of the actor such as traits or preferences), 2) non-dispositional (e.g., transient internal states such as emotions and intentions), and 3) situational (e.g., references to external circumstances). Attributional responses were independently coded by two judges who were blind to experimental condition. Percentage agreement values were 93%, 86%, and 95%, respectively, for dispositional, non-dispositional and situational attributions. Frequency counts for the number of dispositional, non-dispositional and situational attributions were computed for each subject.

Attributions were also rated according to affective valence on a 7 point scale ranging from -3 (very negative) to +3 (very positive). In order to assess inter-rater reliability, correlation coefficients were computed for the ratings of the judges. The correlations were .89, .83, and .83, respectively, for dispositional, non-dispositional, and situational attributions. It was hypothesized that as a function of reduced cognitive effort, subjects in a negative mood would generate a higher frequency of correspondent dispositional attributions than subjects in a positive or

neutral mood. Dispositional attributions were considered to be correspondent if they were affectively congruent with the valence of the behavior. For negative behaviors, dispositional attributions which were rated negatively (less than 0) were defined as correspondent, and for positive behaviors, dispositional attributions which were rated positively (greater than 0) were defined as correspondent. According to this criterion, 95% of dispositional attributions were correspondent. As shown in Figure 1, subjects in the negative mood condition tended to generate a higher frequency of correspondent dispositional attributions for both positive and negative behaviors (M = 2.1) than subjects in the neutral (M = 1.4) or positive (M = 1.0) mood conditions, $F(2,27) = 3.15$, $p < .06$. The frequencies of the remaining attribution categories did not differ as a function of mood condition.

The nature of subjects' attributions was also expected to be determined by the type of behavior to be explained. Negative behaviors relative to positive behaviors were expected to be explained more in terms of situational causes and less in terms of dispositional causes. Analyses revealed that negative behaviors (M = 4.5) were more likely than positive behaviors (M = 2.9) to be explained by situational causes, $F(1,27) = 16.8$, $p < .001$. Although not significant, positive behaviors (M = 1.7) relative to negative behaviors (M = 1.3) tended to be explained with more dispositional

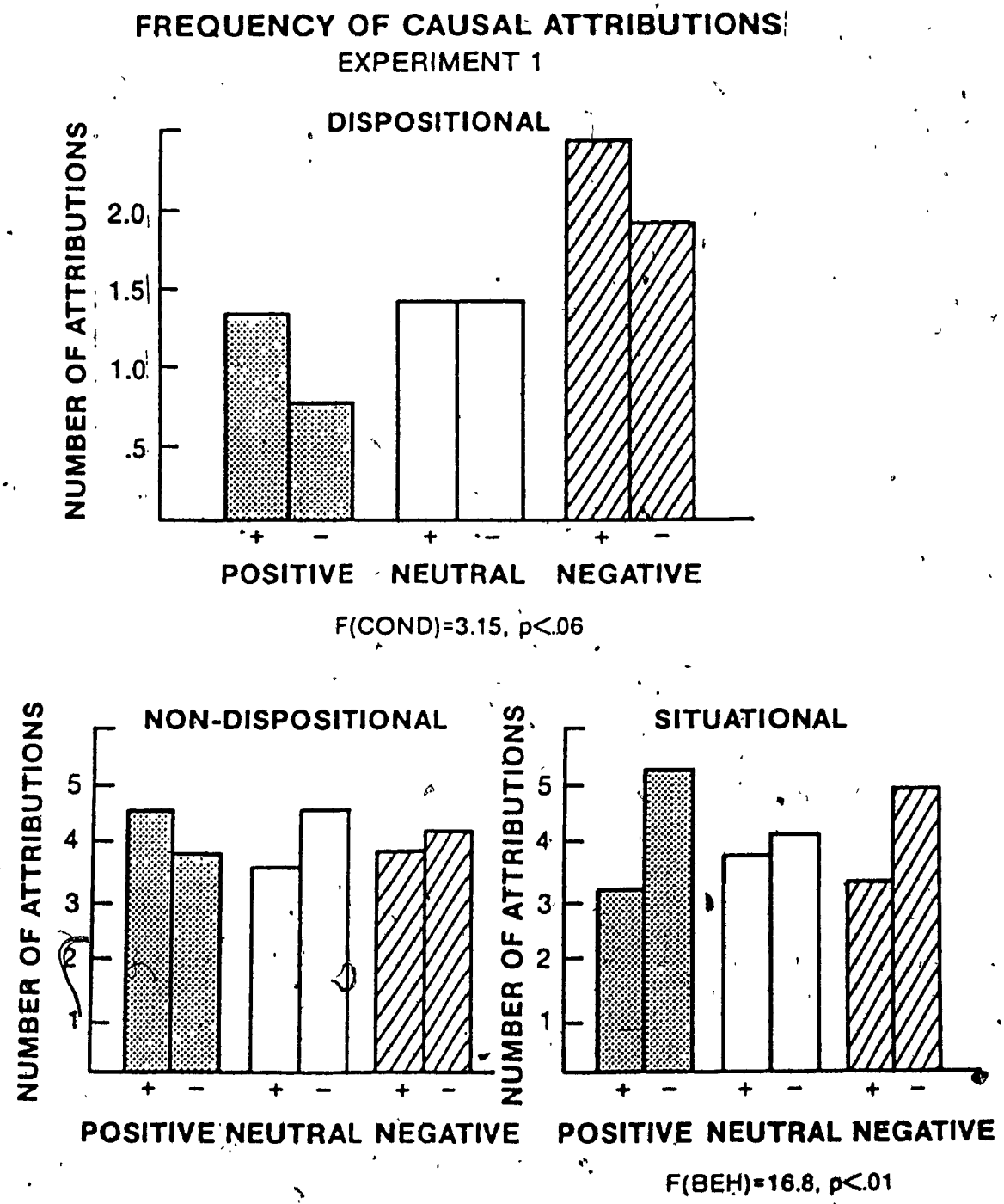

Figure 1. Mean number of dispositional, non-dispositional, and situational attributions generated by subjects in the positive, neutral and negative mood conditions. The + and -symbols refer to behavior valence.

causes, $F(1,27) = 1.54$, ns. Analysis of the total number of attributions generated revealed that subjects tended to provide more attributions for negative ($M = 10.3$) than for positive ($M = 9.3$) behaviors, $F(1,27) = 3.55$, $p < .07$.

It was hypothesized that the affective valence of attributions would be congruent with subjects' mood. To test this hypothesis, each subject obtained an attribution valence score for each causal category calculated as the mean of the valence ratings for attributions of that category. Given that subjects did not provide responses for all causal categories, the sample size varies for analyses of attribution valence. The attribution valence ratings were analyzed separately for positive and negative behaviors as the within-groups factor could not be retained given that subjects who provided attributions to a specific category for positive behaviors did not necessarily make attributions to that category for negative behaviors. Therefore, analyses of variance with mood condition as the between-subjects factor (positive, neutral, negative) were used to test the hypothesis that the valence of attributions would be congruent with subjects' current mood.

As shown in Figure 2, there was some indication of consistency between subjects' mood and the valence of their attributions for negative behaviors. There was a non-significant trend for subjects in the negative mood condition to provide more negative non-dispositional attributions (M =

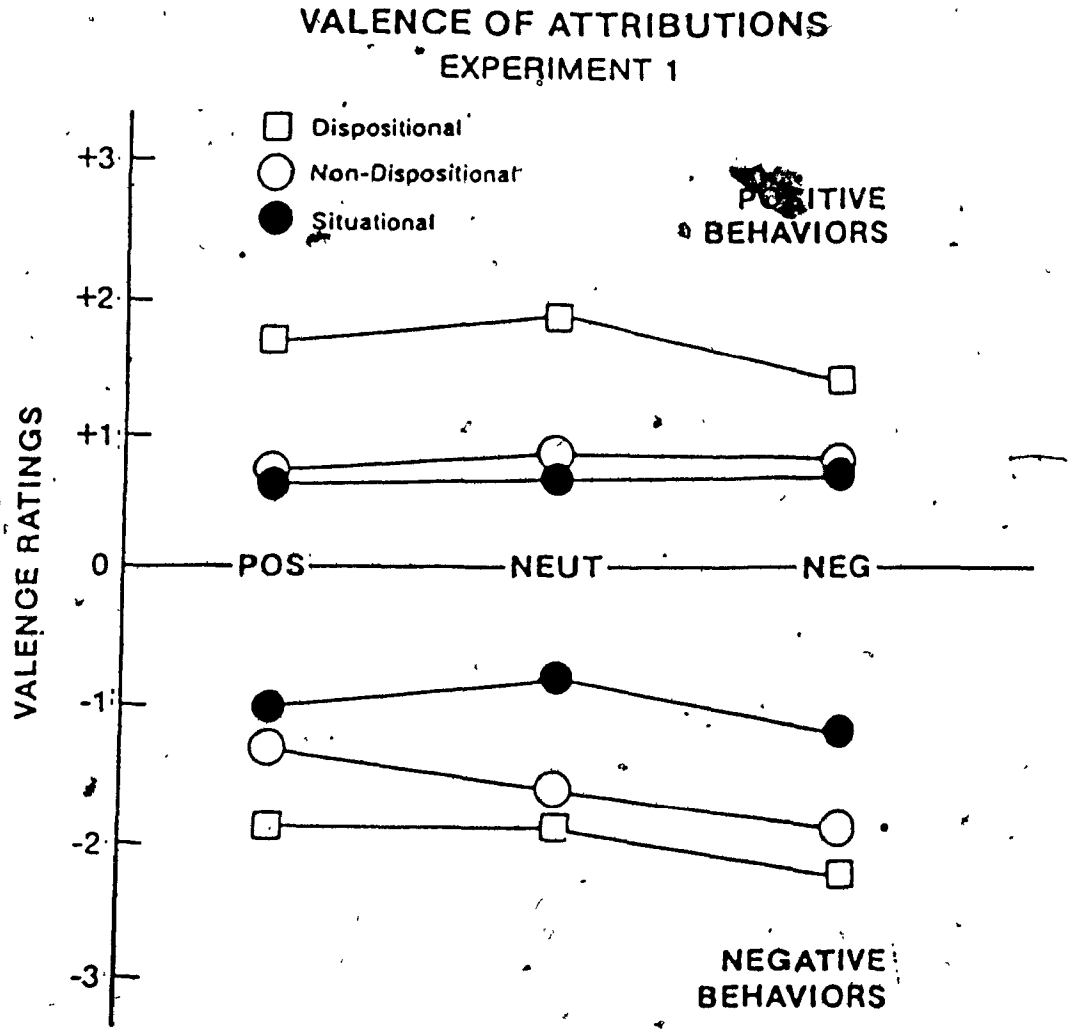

Figure 2. Mean valence scores for dispositional, non-dispositional, and situational attributions generated by subjects in the positive (POS), neutral (NEUT), and negative (NEG) mood conditions. The upper portion of the graph refers to the valence of attributions made to the positive behaviors and the lower portion refers to attributions made to the negative behaviors. *$p < .10$

-1.9) than subjects in the positive (M = -1.3) or neutral (M = -1.5) conditions, $F(2,22) = 2.5$, $p < .10$. A similar non-significant pattern of results was observed for the valence of situational attributions, $F(2,27) = 1.8$, ns. There was no evidence of mood-congruency for dispositional attributions. Finally, there was no evidence of mood-congruency for attributions made for the positive behaviors (all Fs < 1).

Discussion

The results of Experiment 1 revealed that subjects in a negative mood tended to generate more correspondent dispositional attributions for observed behavior than subjects in the positive or neutral mood conditions. This finding is consistent with the hypothesis that the reductions in effort expenditure associated with negative mood will lead subjects to generate low effort attributions.

The frequencies of non-dispositional and situational attributions did not vary as a function of mood condition. It is possible that under conditions where subjects are encouraged to engage in effortful attributional processing, mood differences for these attributions may be obscured. Alternately, it is possible that certain stimulus characteristics such as the order of presentation, the type of behavior described, or the sex of the narrator may have contributed to increased error variance. Due to small sample size, the factorial design of the study could not be expanded to examine, statistically, the separate effects of these variables.

The results also offer some support for the mood-congruency hypothesis. It was predicted that the valence of attributions would be congruent with subjects' mood. The affective tone of non-dispositional and situational attributions showed a slight bias in the direction of mood-

congruency, but only for attributions to the negative behaviors. There was no evidence of mood congruency for the affective tone of attributions made to the positive behaviors.

EXPERIMENT 2

In Experiment 1, results suggested that subjects' mood influenced their attributions for observed social behavior. These findings are consistent with the position that correspondent dispositional inferences require minimal effort and that negative mood decreases the amount of effort expended in attributional processing. However, the magnitude of mood effects was modest. In order to determine the reliability of these findings, a replication study was conducted.

The methodology of Experiment 2 was identical to that of Experiment 1, with the exception of modifications to the behavior descriptions. In Experiment 1, subjects listened to positive and negative behavior descriptions in the same alternating sequence beginning with a negative behavior. In other words, all subjects were exposed to 4 different interpersonal scenarios in the same order. In Experiment 2, the behavior descriptions were constructed such that the same general scenario could serve as a positive or negative description by varying the nature of the behavioral outcome. For example, one scenario depicts a woman arriving home and receiving a phone call from her boyfriend. In the positive version, she offers to treat her boyfriend to dinner. In the negative version, she refuses her boyfriend's invitation to dinner. The order of presentation was counterbalanced with the constraint that the valence of behaviors alternated in

sequence. The sex of the actor and the sex of the narrator were also counterbalanced across subjects.

The predictions of Experiment 2 were the same as those of Experiment 1. It was expected that, as a function of reduced cognitive effort, subjects in a negative relative to positive or neutral mood should be more likely to generate correspondent dispositional attributions for observed behavior. Subjects in a positive relative to negative or neutral mood should generate more non-dispositional and situational attributions. In addition, the emotional tone of subjects' attributions should be affectively congruent with their current mood state. The results of Experiment 1 showed that the valence of dispositional attributions was congruent with the valence of target behaviors rather than mood. Thus, mood-congruency effects were expected only for non-dispositional and situational attributions.

Method

Subjects

Twenty four men and 26 women participated in the experiment. Subjects signed up for participation at a booth located in the Hall building of Concordia University. Subjects whose first language was not English, and subjects who were enrolled in psychology were excluded from the subject pool. The mean age of the sample was 22.4 years with a range of 19 to 28 years. All subjects were assigned to the positive, neutral or negative mood conditions according to the order of arrival at the laboratory. Subjects were each paid $4 for their participation. The data of two subjects were excluded for failure to follow instructions.

Materials

Behavior Descriptions. All subjects listened to four audiotaped behavior descriptions. The behavior descriptions differed from those used in Experiment 1 in that the valence of the behavior was varied (i.e., positive or negative) while holding the general situational context constant (Appendix F). Thus, for each interpersonal scenario, valence was determined by its behavioral outcome. The behaviors were performed by a male or female actor, and the behavior descriptions were narrated by a man or a woman. The behavior

descriptions thus varied along three dimensions; valence of the behavior, sex of the actor, and sex of the narrator. The order of presentation was determined using a latin square design.

Mood Induction. The mood induction procedure was identical to that employed in Experiment 1. Subjects in the positive and negative mood conditions were asked to recall, vividly, and describe two recently experienced positive or negative events, respectively. Subjects in the neutral mood condition described two different routes they could take to get to school or work.

Procedure

The experimental procedure was generally the same as that used in Experiment 1. Subjects were randomly assigned to condition, and the experimenter was blind to condition. Subjects were told that the experiment was designed to examine age differences in memory for detail and social judgment. They were first provided with instructions for the life event recall task. Subjects then listened to the behavior descriptions through headphones and provided their attributional responses in an open-ended format.

Following the attribution task, subjects completed a 20 item mood measure. They were led to believe that the mood measure was part of an unrelated study aimed at collecting

normative mood data. The affective adjectives were drawn from the Profile of Mood States (McNair, Lorr, & Droppleman, 1971). Each adjective was presented on a 15 point scale ranging from not at all (1) to extremely (15). The number of mood adjectives was increased and the range of the rating scale was expanded in order to increase the sensitivity of the mood measure. At the conclusion of the experiment, subjects were debriefed and paid for their participation. No subject reported being aware that the three experimental tasks were related, or that the memory task was intended as a mood induction.

Results

The statistical design was the same as that of Experiment 1, with mood condition (positive, neutral, negative) and sex of subject (male, female) as the between-groups factors, and target behavior as the within-groups factor (positive behaviors, negative behaviors). There were no significant effects due to sex of subject and thus the analyses are reported collapsed across this factor.

Manipulation Check. The 20 items of the mood questionnaire were entered in a cluster analysis which yielded a positive and a negative cluster with inter-item correlations greater than .40. The mood score was obtained by averaging the responses to the items within each cluster, and subtracting the negative mean from the positive mean. Higher scores indicate more positive mood. A one-way ANOVA revealed a marginally significant difference in self-reported mood across conditions, $F(2,46) = 3.0$, $p < .06$. Planned comparisons indicated that subjects in the negative mood condition ($M = 1.3$) reported more negative mood than subjects in the positive ($M = 2.6$) or neutral ($M = 3.1$) mood conditions, $t(46) = 2.2$, $p < .05$. The positive and neutral mood conditions did not differ significantly from each other.

Attributions. Attributional responses were coded into one of the following categories; 1) dispositional, 2) non-

dispositional, or 3) situational. Subjects' responses were independently coded by two judges who were blind to experimental condition. Percentage agreement values for the two judges were 85%, 86%, and 88% for dispositional, non-dispositional, and situational attributions, respectively. Frequency counts for the number of dispositional, non-dispositional, and situational attributions were computed for each subject. The frequency counts used in the analyses represent the mean of the values provided by the two judges.

Attributions were also rated according to affective valence on a 7 point scale ranging from -3 (very negative) to +3 (very positive). Correlations between the ratings of the two judges were .90, .82, and .79 for dispositional, non-dispositional, and situational attributions, respectively.

It was hypothesized that subjects in a negative mood would generate a higher frequency of low effort, correspondent dispositional attributions than subjects in a positive mood. Dispositional attributions were considered correspondent if they were rated as affectively congruent with the valence of the target behaviors. According to this criterion, 93% of dispositional attributions were correspondent. As shown in Figure 3, subjects in the negative mood condition provided significantly more correspondent dispositional attributions (M = 2.1) than subjects in either the positive (M = 1.2) or neutral (M = .8) conditions, $F(2,45) = 3.5$, $p < .05$. The frequency of non-

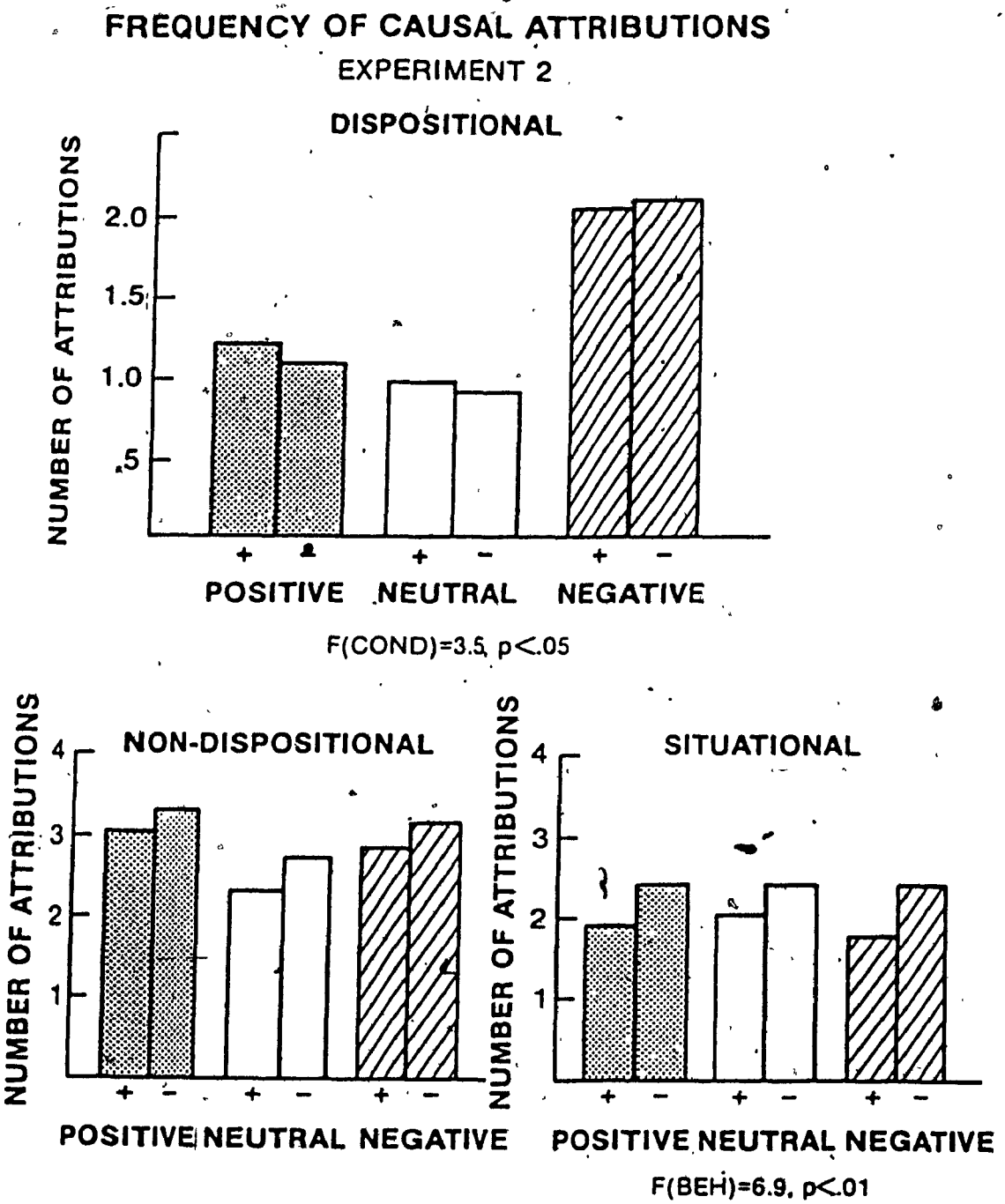

Figure 3. Mean number of dispositional, non-dispositional, and situational attributions generated by subjects in the positive, neutral and negative mood conditions. The + and - symbols refer to behavior valence.

dispositional and situational attributions did not vary significantly as a function of mood condition, $\underline{F}s < 1$. The total number of attributions generated by subjects did not differ as a function of mood condition, $\underline{F} < 1$.

As in Experiment 1, it was predicted that negative behaviors would elicit more situational attributions and less dispositional attributions than positive behaviors. Consistent with the results of Experiment 1, negative behaviors ($\underline{M} = 2.6$) were more likely than positive behaviors ($\underline{M} = 2.1$) to be explained by situational causes, $\underline{F}(1,46) = 6.9$, $\underline{p} < .01$. However, the frequency of dispositional and non-dispositional attributions did not differ for positive and negative behaviors, $\underline{F}s < 1$. The total number of attributions did not differ as a function of behavior valence, $\underline{F} < 1$.

The valence of subjects' non-dispositional and situational attributions was expected to be congruent with their current mood. A valence score was computed for each causal category by averaging the valence ratings for attributions made of that category. The within-groups factor (behavior valence) was not retained since subjects did not necessarily provide attributions to the same causal category for both positive and negative behaviors. Oneway ANOVAs with mood condition as the between-groups factor were used to test the mood-congruency hypothesis.

Figure 4 shows that for negative target behaviors,

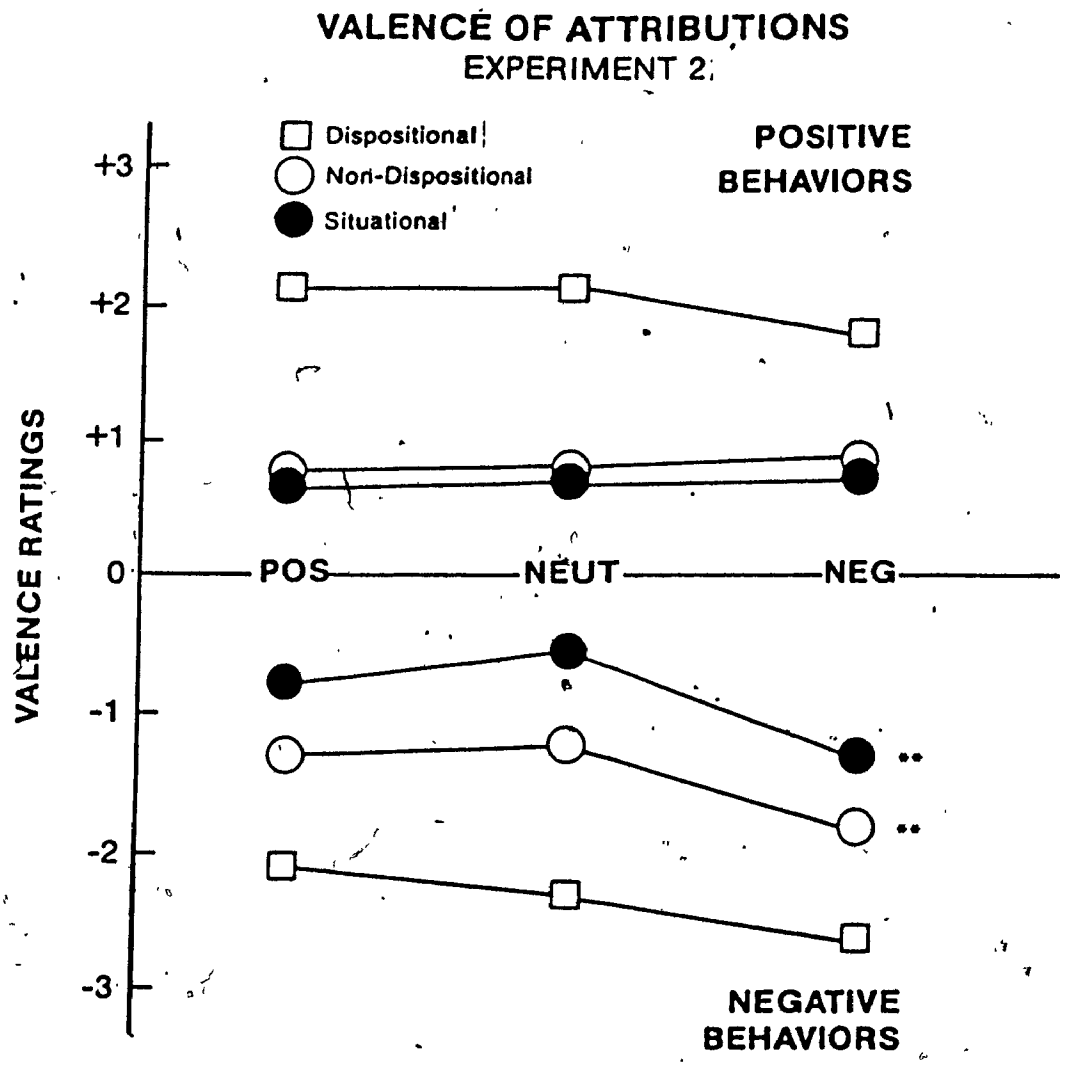

Figure 4. Mean valence scores for dispositional, non-dispositional, and situational attributions generated by subjects in the positive (POS), neutral (NEUT), and negative (NEG) mood conditions. The upper portion of the graph refers to the valence of attributions made to the positive behaviors and the lower portion refers to attributions made to the negative behaviors. *$p<.01$

subjects in the negative mood condition generated situational attributions which were significantly more negative (M = -1.3) than those generated by subjects in the positive (M = -.8) or neutral (M = -.5) mood conditions, $F(2,44) = 5.0$, $p < .01$. A similar pattern of results was obtained for non-dispositional attributions, but analyses failed to reach statistical significance, $F(2,44) = 2.2$, $p = .11$. There was no evidence of mood-congruency for dispositional attributions, $F < 1$. The valence of attributions made to the positive behaviors did not vary significantly as a function of current mood, Fs < 1.

Discussion

The finding that subjects in a negative mood generate more correspondent dispositional attributions for both positive and negative target behaviors supports the hypothesis that negative mood leads to low effort attributional processing. In contrast to the present findings, previous research has failed to show that reductions in effort expenditure, due to distraction or negative mood, can influence subjects' attributions for observed behavior (Fiske et al., 1982; Sweeney et al., 1982). In these studies, however, subjects were required to generate a single attribution for observed behavior. It has been shown that individuals typically favor dispositional (low effort) explanations for behavior (Jones & Nisbett, 1972). Therefore, paradigms which require a single attributional response may not be suitable for examining the effects of reduced effort expenditure on attributions for social behavior. It appears that the effects of reductions in effort expenditure on attributions can be demonstrated under conditions where subjects are required to engage in a more deliberate search for causal explanations. When asked to generate several explanations for behavior, subjects in a negative mood are more likely than subjects in a positive or neutral mood to restrict their causal analysis to explanations requiring minimal effort.

It was predicted that subjects in a positive mood would

engage in more effortful attributional processing, and thus generate a higher frequency of non-dispositional and situational causes. In Experiments 1 and 2 however, subjects' mood did not influence the frequency of non-dispositional and situational attributions. The induction of an insufficiently intense positive mood state may account for the lack of observed differences in the frequencies of these attribution categories. It is also possible that the categorization of attributions into two broad categories such as non-dispositional and situational may have obscured mood differences on more specific types of attributions. For example, the non-dispositional category contained attributions to a variety of internal states such as emotions, physical well-being, intentions, goals, and thoughts. Similarly, references to current circumstances, past events, and other's behavior were grouped to form the situational category. Given that the present state of knowledge concerning effortful attributional processing provides little information to guide the categorization of these distinct attributions, the categorization procedure was based on previous research examining attributions for social behavior (e.g., Elig & Frieze, 1974). It is possible that the distinct attributions within each category may not be comparable with respect to effort requirements. In the current studies, this question could not be examined as these attributions were not represented in sufficient quantity to

be analyzed separately.

In Experiments 1 and 2, the increased frequency of dispositional attributions generated by subjects in a negative mood was interpreted as being the result of reduced effort expenditure during attributional processing. This finding however, may be the result of mood differences in the amount of information which was recalled about the behavior descriptions. For example, it has been shown that subjects in a negative relative to positive mood are impaired in their ability to recall complex information (Ellis et al., 1984). Thus, as a function of encoding or retrieval difficulties, subjects in a negative mood may have experienced difficulty recalling the situational context of the behavior descriptions, and may have based their causal reasoning primarily on their recall of the behavioral outcomes. According to this interpretation, the effects of negative mood on causal reasoning would be mediated by impairments in the encoding or retrieval of information rather than being associated with reduced effortful attributional processing. While both interpretations appeal to the concept of reduced effort expenditure, they locate the effects of mood at different points in the chain of information processing. In Experiments 1 and 2, subjects' recall of the behavior descriptions was not assessed, and thus, the possibility that the observed mood effects were due to memory impairment associated with negative mood cannot be ruled out. This

question will be addressed in Experiment 3.

The findings of Experiment 2 provide partial support for the mood-congruency hypothesis. Mood-congruency effects were obtained for the emotional tone of situational and non-dispositional attributions. As in Experiment 1, however, these effects were obtained only for attributions made to the negative behaviors. There was no evidence of mood-congruency for attributions made to the positive behaviors. It is difficult to account for these null effects in terms of network theory. Previous studies which have examined the effects of mood on cognition have generally reported evidence of mood-congruency in response to both positive and negative stimuli (e.g., Bower, 1981; Bower, Gilligan, & Monteiro, 1981). One possibility concerns the extent to which subjects in a negative mood may have been motivated to reduce their negative feelings. It has been shown that negative mood can lead subjects to engage in mood elevating behavior such as helping (Cialdini & Kenrick, 1976). In the present studies, subjects in a negative mood may have focussed on positive attributions for positive behaviors as a means of alleviating their negative mood state. However, the mood-congruency findings obtained in response to negative behaviors do not support the position that subjects in a negative mood were motivated to alleviate their negative mood state.

An alternate interpretation of the current findings is in terms of cognitive priming as opposed to mood. It has

recently been argued that cognitive priming may be responsible for mood-congruency effects (Blaney, 1986; Kavanagh & Bower, 1985; Rholes, Riskin, & Lane, 1987). Mood induction procedures typically involve some form of cognitive manipulation such as the repetition of emotionally toned self-statements (Velten, 1968), or the recall of emotional life events. It is possible that the cognitive components of mood induction procedures may contribute directly to the observed effects.

Several factors argue against cognitive priming as the main determinant of observed mood effects in the current studies. First, given that the content of the mood induction material varied across subjects, it is difficult to specify what cognitions were primed. Perhaps the general categories of positive and negative cognitions were primed by the positive and negative mood inductions, thus increasing the likelihood that these cognitions, or memory associates sharing the same valence, were brought to bear in the attribution task. This position would predict that subjects who recalled negative events would provide more negative attributions, and that subjects who recalled positive events would provide more positive attributions. A cognitive priming position would predict these mood-congruent effects even in the absence of actual mood differences. In the present study, however, mood-congruency effects were observed only where there was evidence of mood differences, and were

not obtained for dispositional attributions.

The obtained differences in the frequency of dispositional attributions may also be considered in terms of cognitive priming. In light of the research showing that subjects make external attributions for negative outcomes and internal attributions for positive outcomes (Anderson, 1983; Miller & Ross, 1975), it could be argued that internal and external attributions would be primed by the recall of positive and negative events, respectively. By this account, subjects recalling negative events should be more likely to generate situational attributions, and subjects recalling positive events should be more likely to generate dispositional attributions. The present study provides no evidence for this pattern of attributional responding.

Examination of depressives' attributions for other's behavior may provide some clarification of the role of cognitive priming in the mediation of the mood-congruency effects observed in Experiments 1 and 2. Replication of the present findings as a function of naturally occurring variations in mood would argue against a cognitive priming position.

Comparing the attributions of depressed and non-depressed individuals may also shed light on depressives' attributional style. Depressed people make internal attributions for both success and failure while non-depressed controls show a self-serving attributional bias (Raps,

Petterson, Reinhard, Abramson, & Seligman, 1982; Rizley, 1978). Self-serving bias refers to a tendency to make internal attributions for success, such as to ability, and external attributions for failure, such as to task difficulty. The depressive's pattern of causal reasoning has been termed attributional evenhandedness, and is assumed to be the result of learning experiences characterized by uncontrollability and excessive punitiveness (Abramson, Seligman, & Teasdale, 1978). Although there are methodological differences between these studies and the current research (e.g., attributions for self versus other; depression versus induced negative mood), the present findings nevertheless suggest that attributional evenhandedness may be the result of negative mood induced reductions in effortful processing. Depressives may make dispositional attributions for their own behavior because these attributions require minimal effort.

To summarize, evidence has been presented showing that subjects experiencing a negative mood relative to a positive mood generate more correspondent dispositional attributions for observed behavior. This finding was interpreted as being the result of negative mood induced decrements in effortful processing. It was also shown that subjects' non-dispositional and situational attributions for negative behaviors tend to be affectively congruent with their mood. The latter finding was interpreted as being the result of

mood related changes in the accessibility of information. As noted earlier, it is possible that the increased frequency of dispositional attributions observed as a function of negative mood may be the result of memory impairment rather than reduced effortful attributional processing. It is also possible that mood effects on attributions may be due to cognitive priming.

In order to clarify the role of cognitive priming in the mediation of the present findings, a third study was conducted comparing depressed and non-depressed subjects' attributions for others' behavior. Replication of the findings of Experiments 1 and 2 in a depressed population would argue in favor of mood, rather than cognitive priming, as the primary determinant of mood effects on attributions. In addition, replication would provide converging evidence for the reliability of the findings of Experiments 1 and 2, and would offer support for the contention that depressives' tendency to make dispositional attributions for their own behavior may be the result of reductions in cognitive effort expenditure. Subjects' recall of the behavior descriptions was also assessed to determine the role of memory impairment in the mediation of the relationship between negative mood and increased reporting of dispositional attributions.

EXPERIMENT 3

It was hypothesized that as a function of reduced effort expenditure associated with negative mood, depressed subjects would make more correspondent dispositional attributions for positive and negative behaviors than non-depressed subjects. As an additional measure of correspondence bias, subjects were also asked to make evaluative judgments of the actors in the behavior descriptions. To the extent dispositional inferences determine subjects' evaluations of the actors (Carlston, 1980), subjects' judgments were expected to be evaluatively consistent with the attributed dispositions. In other words, if depressed subjects are more likely than non-depressed subjects to make dispositional inferences which are congruent with the valence of behavior, then depressives' evaluations of actors may also be congruent with the valence of behavior. Thus, compared to non-depressed subjects, depressed subjects should make more extreme evaluative ratings of the actors.

In order to examine the role of memory impairment in the mediation of the relationship between negative mood and increased reporting of dispositional attributions, subjects' recall for the behavior descriptions was assessed. Findings showing that depressed subjects relative to non-depressed subjects recall less information about the behavior descriptions would suggest that negative mood exerts its

effects on causal reasoning through interference with encoding and retrieval processes. Findings showing that depressed and non-depressed subjects are comparable with respect to the amount of information recalled would be consistent with the contention that negative mood reduces effort expenditure during attributional processing.

As a function of the increased accessibility of mood-congruent information, it was predicted that depressed subjects would provide more negative attributions than non-depressed subjects because depression is associated with chronic negative mood. Based on the findings of Experiments 1 and 2, mood-congruency effects were expected for non-dispositional and situational attributions, but not for dispositional attributions.

Method

Subjects

Subjects were recruited from 110 undergraduates who signed up to participate in an 'Age Differences Study'. The sign-up procedure required that participants complete the Beck Depression Inventory (BDI; Beck, 1967). Subjects were told that the BDI was part of an unrelated study designed to collect normative data. The BDI scores of the total sample ranged from 0 to 32 with a mean of 8.6 (SD = 5.7). The BDI was re-administered at the time of the experiment. Using predetermined cut-off scores, subjects who received scores of 6 or less on the BDI were defined as non-depressed, and subjects who received scores of 10 or more were defined as depressed. Only the data for subjects who scored within the depressed or non-depressed range at the time of recruitment and at the time of testing were used in further analyses. This selection procedure yielded 15 (13 males, 2 females) non-depressed (BDI, $\underline{M}$ = 3.2) and 15 (10 males, 5 females) depressed (BDI, $\underline{M}$ = 15.3) subjects. The mean age of the sample was 23.5 years with a range of 19 to 30. The ratio of males to females reflects the relative numbers of males and females who signed up for participation in the research.

Materials

Behavior Descriptions. The behavior descriptions were the same as those used in Experiment 2.

Questionnaires. A questionnaire was contructed in order to assess subjects' evaluations of the actors in the behavior descriptions. Subjects rated each actor on two 15-point scales with the endpoints good person (1), bad person (15), and kind person (1), selfish person (15), respectively. Subjects rated their confidence in their judgments on a scale ranging from not at all confident (1) to extremely confident (15). Subjects also rated their evaluative impression of the actor's behavior on a scale ranging from good behavior (1) to bad behavior (15), and indicated the degree to which the behavior was expected or unexpected on a scale ranging from totally expected (1) to totally unexpected (15). The latter measure was included because there is research to suggest that attributions for observed behavior may be mediated by expectancies (Weiner, 1985).

The BDI was used as a measure of depth of depression. This instrument contains 21 items describing various symptoms of depression. Each item consists of four or five statements representing different degrees of severity of a particular symptom. Statements of greater intensity are associated with higher scores. Subjects are asked to endorse the statement

which best describes how they have been feeling recently. A subject's score is the algebraic sum of the statements he or she has endorsed, where higher scores indicate more severe depression. The instrument has been validated on clinical and university populations (Beck, 1967; Bumberry, Oliver, & McClure, 1978). Suggested cut-off scores for depression range from 9 to 11.

A 20-item mood measure was also included to measure current mood. This instrument is the same as the one used in Experiment 2.

Procedure

The general procedure was similar as that used in Experiment 2, except for the mood induction procedure. Subjects were randomly assigned to condition and were tested in groups of 2 to 6. The introductory rationale was the same as that used in Experiment 2 with the exception of the life event recall. The author, who was blind to experimental condition explained that the study was concerned with age differences in social judgment. Subjects listened to behavior descriptions and provided their responses in an open-ended format. In addition, subjects completed a questionnaire assessing their overall impressions of the actors' dispositions and behaviors. Subjects were then asked to recall the information contained in the behavior descriptions. Finally, subjects completed the mood measure

and the BDI which they were told were part of an unrelated study to collect normative data. They were then debriefed and paid $5 for their participation. During debriefing, subjects were told that the study was concerned with the relationship between mood and attributions but they were not told that they had been chosen on the basis of their depression scores.

Results

The frequencies of dispositional, non-dispositional, and situational attributions, and the evaluative ratings of the actors were analyzed as a two-way mixed factorial analysis of variance. The between factor was mood condition (depressed versus non-depressed), and the within factor was valence of target behavior (positive versus negative). Sex of subject was not included as a factor due to an insufficient number of female subjects. Attribution valence was analyzed with t-tests for independent samples to compare differences between depressed and non-depressed subjects.

Mood Measure. The 20 items of the mood questionnaire were entered in a cluster analysis which yielded one positive and one negative cluster, each with inter-item correlations greater than .40. Mood scores were obtained by averaging the responses to the items within each cluster, and subtracting the negative mood score from the positive mood score. Higher scores indicate more positive mood. Depressed subjects (M = 1.4) reported significantly more negative mood than non-depressed controls (M = 3.5), $t(25) = 2.7$, $p < .01$.

Attributions. Subjects' attributional responses were coded by two judges who were blind to experimental condition, into one of the following categories; 1) dispositional, 2) non-

dispositional, and 3) situational. Percentage agreement values for the two judges were 88%, 80%, and 80%, respectively for dispositional, non-dispositional, and situational attributions. Frequency counts were computed for responses provided to each attribution category. Attributions were rated according to affective valence on a 7 point scale ranging from -3 (very negative) to +3 (very positive). Correlation coefficients for the ratings of the two judges were .94, .88, and .82, respectively for dispositional, non-dispositional, and situational attributions.

It was hypothesized that depressed subjects would generate more correspondent dispositional attributions than non-depressed subjects. Dispositional attributions which were affectively congruent with the valence of the behavior were considered correspondent. Ninety six percent of dispositional attributions were correspondent by this criterion. Figure 5 shows that, consistent with the findings of Experiments 1 and 2, depressed subjects made significantly more correspondent dispositional attributions for both positive and negative behaviors ($\underline{M}$ = 1.9) than non-depressed controls ($\underline{M}$ = 1.2), $\underline{F}(1,28) = 4.47$, $\underline{p} < .05$. There were no significant differences between mood conditions for the frequency of non-dispositional and situational attributions. The total number of attributions did not differ significantly as a function of condition, $\underline{F} < 1$.

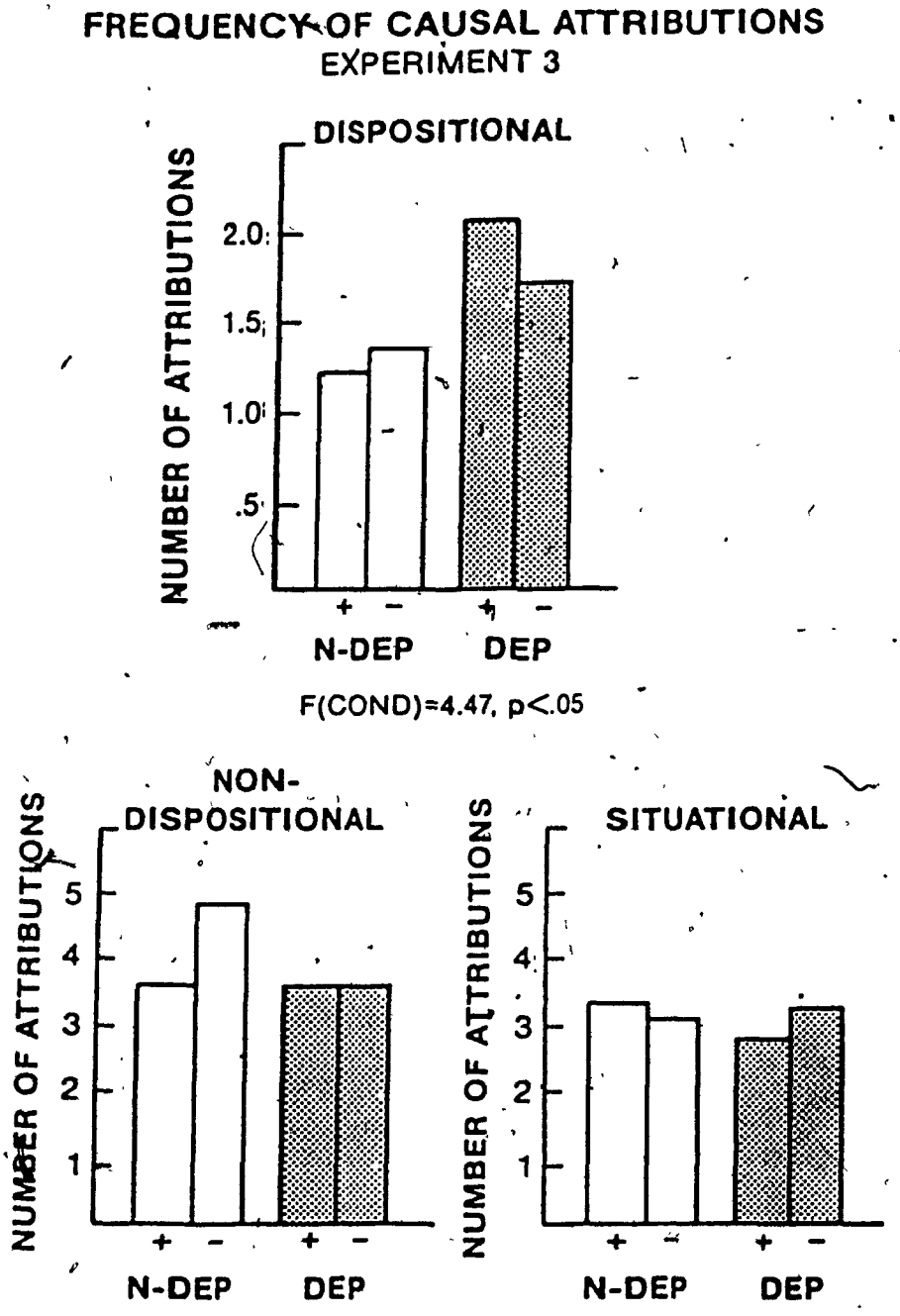

Figure 5. Mean number of dispositional, non-dispositional, and situational attributions generated by subjects in the non-depressed (N-DEP) and depressed (DEP) conditions. The + and - symbols refer to behavior valence.

In order to assess the role of memory impairment in the mediation of the above findings, subjects were asked to recall the information contained in the behavior descriptions. Subjects' written responses were rated according to the number of ideas correctly recalled. For each behavior description, subjects obtained one point for each idea correctly recalled, with a possible maximum score of 5. Percentage agreement values for the ratings of two judges were 95% and 96% for positive and negative behaviors, respectively. Overall, subjects were highly accurate in their recall, correctly identifying an average of 4.3 ideas for each behavior description. There were no significant differences between depressed and non-depressed subjects in the number of ideas correctly recalled, $F < 1$.

Unexpectedly, subjects did not provide more situational attributions for negative behaviors or more dispositional attributions for positive behaviors, $Fs < 1$. However, cell means were in the predicted direction. The total number of attributions generated by subjects did not vary as a function of condition or behavior valence, $F < 1$.

It was predicted that the valence of subjects' non-dispositional and situational attributions would be congruent with their mood. Valence scores for dispositional, non-dispositional, and situational attributions were obtained by averaging the valence ratings of attributions made to each respective category.

Figure 6 shows that for negative behaviors, depressed subjects provided non-dispositional attributions which were significantly more negative (M = -1.6) than those provided by non-depressed subjects (M = -1.0), $t(27) = 2.83$, $p < .01$. Similarly, the situational attributions of depressed subjects were significantly more negative (M = -1.2) than those of non-depressed subjects (M = -.5), $t(27) = 3.35$, $p < .01$. The affective valence of dispositional attributions did not vary as a function of condition, $t(28) = .8$, ns.

For positive behaviors, non-depressed subjects provided non-dispositional attributions which were significantly more positive (M = 1.3) than those provided by depressed subjects (M = .4), $t(28) = 3.4$, $p < .01$. A similar pattern was observed for situational attributions although differences were not significant, $t(28) = 1.2$, ns. The emotional tone of dispositional attributions did not differ significantly as a function of condition, $t(27) = -.5$, ns.

It was predicted that depressed subjects would make more extreme evaluations of actors for both positive and negative behaviors. The results provide some support for this hypothesis. A significant two-way interaction was obtained for subjects' evaluative ratings of the actors (good person-bad person), $F(1,28) = 11.1$, $p < .01$. Depressed subjects made more negative evaluations (M = 9.1) of the actors in the negative stories than non-depressed subjects (M = 7.3). Depressed subjects also tended to make more positive

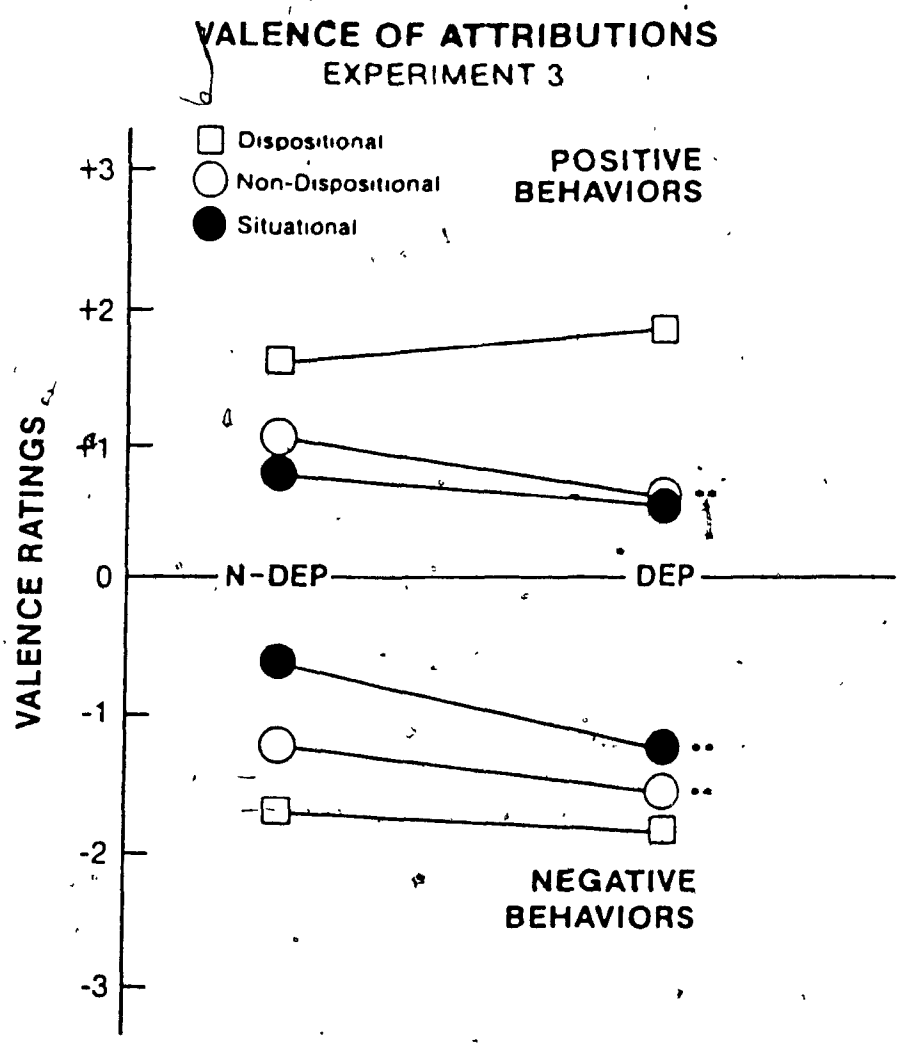

Figure 6. Mean valence scores for dispositional, non-dispositional, and situational attributions generated by subjects in non-depressed (N-DEP) and depressed (DEP) conditions. The upper portion of the graph refers to the valence of attributions made to the positive behaviors and the lower portion refers to attributions made to the negative behaviors. $^{**}p < .01$

evaluations of the actors in the positive stories (M = 3.1) than non-depressed subjects (M = 3.9) although the means did not differ significantly. A similar pattern was obtained for kind-selfish ratings but analyses did not reach statistical significance, $F(1,28) = 1.2$, ns. There were no differences due to mood condition for subjects' ratings of their confidence in their dispositional judgments. However, both groups were less confident for dispositional judgments made for negative behaviors; $F(1,28) = 6.6$, $p < .01$. Expectancy ratings, and evaluative ratings of the behaviors did not vary as a function of mood. These data are presented in Table 1.

TABLE 1

SUBJECTS' EVALUATIVE RATINGS OF ACTORS, CONFIDENCE RATINGS, AND BEHAVIOR RATINGS.

	NON-DEPRESSED	DEPRESSED
GOOD PERSON-BAD PERSON (1 - 15)		
Pos. Beh.	3.9	3.1
Neg. Beh.	7.3	9.1
KIND PERSON-SELFISH PERSON (1 - 15)		
Pos.Beh.	4.1	3.6
Neg.Beh.	9.1	9.8
CONFIDENCE IN RATINGS (1 - 15)		
Pos.Beh.	10.2	9.8
Neg.Beh.	8.4	8.5
GOOD BEHAVIOR-BAD BEHAVIOR (1 - 15)		
Pos.Beh.	3.9	3.6
Neg.Beh.	9.2	8.5

Note: For the evaluative and behavior ratings, higher scores indicate more negative evaluations. For the confidence ratings, higher scores indicate greater confidence.

Discussion

As expected, depressed relative to non-depressed subjects were more likely to generate low effort, correspondent dispositional attributions for observed behavior. This finding is consistent with the results of Experiments 1 and 2, and supports the hypothesis that negative mood, whether transient or chronic, leads to low effort attributional processing. Consistent with their dispositional attributions, depressed subjects, relative to non-depressed subjects, made more extreme evaluative ratings of actors. Negative mood may interfere with subjects' ability to process the additional information necessary to explain behavior in situational terms, and may thus favor the less effortful task of inferring dispositional causality directly from behavior.

The lack of observed group differences in the recall of the behavior descriptions argues against the contention that the above findings are mediated by memory impairment associated with negative mood. In the present experiment, depressed and non-depressed subjects were equally accurate in their recall of the behavior descriptions, with both groups recalling nearly all the information available for causal analysis. It appears therefore, that negative mood exerts its effects on causal reasoning by reducing the effort expended in the processing of available causal information rather than through interference with encoding or retrieval

processes. The absence of recall differences between depressed and non-depressed subjects may be related to characteristics of the behavior descriptions. The behavior descriptions were short and contained structured and concrete information. Previous research has shown that depressed subjects are impaired in their ability to recall information which is complex, unstructured, or abstract (Johnson & Magaro, 1987).

In Experiment 3, the frequencies of non-dispositional and situational attributions did not vary as a function of depression, although the means were in the predicted direction. In Experiments 1 and 2, there was no indication of mood effects on the frequencies of these attributions. As noted earlier, it is possible that the classification of several distinct attributions into the two broad categories of non-dispositional and situational attributions may not accurately reflect similarities and differences in effortful processing. Research to date has focussed primarily on the minimal effort requirements of correspondent dispositional attributions, with the implicit assumption that all non-correspondent attributions require more effort. However, it is possible that specific non-correspondent attributions may also differ according to cognitive effort. For example, certain situational attributions may be made more frequently than others and, as a function of repeated experience, may come to require minimal effort, while other situational

attributions may be made less frequently and thus require more effort (Schneider & Shiffrin, 1977). Combining these attributions into one category may have obscured subtle differences in effortful processing among distinct attributions. The development of more appropriate classification awaits research addressing more directly the degree to which specific non-dispositional and situational attributions differ with respect to the cognitive effort they require.

The present study also provided evidence of mood-congruency. Depressed subjects generated more negative non-dispositional and situational attributions than non-depressed subjects. Subjects' attributions for both positive and negative behaviors were affectively congruent with their mood. In the two previous studies, the absence of mood effects for attributions to positive behaviors was explained as being due to the induction of insufficiently intense mood states. The present data do not support this explanation given that mood effects on positive behaviors were obtained and mood differences between groups were comparable to the two previous studies. The explanation of these discrepant findings may be due to differences in the nature of causal information which is made more accessible as a function of transient or chronic negative mood. It is possible that due to the chronicity of depression, depressives' causal schema for social behavior may contain more negative attributions

than the causal schema activated by transient negative mood. Alternately, subjects in a transient negative mood may have focussed on positive explanations of positive behavior as a means of altering their negative mood (Isen, 1984). Depressives may have been more impaired in their ability to engage in mood repair strategies. It is important to note, however, that the results of the present studies do not provide the information necessary to examine the relative viability of these alternate explanations, and thus they remain speculative.

The present findings are relevant to the mood versus cognitive priming debate in the mediation of mood-congruency effects (Blaney, 1986; Rholes et al., 1987). Given that the attributional mood-congruency effects which were observed as a function of naturally occurring depression are comparable to those observed for induced negative mood, it is difficult to argue that the effects can be accounted for by priming due to the cognitive components of mood induction procedures. The data suggest that mood is the primary determinant of attributional mood-congruency.

Cognitive priming has also been posited as mediating mood-congruency effects in depressed subjects (Blaney, 1986). It has been suggested that depressives' negative cognitions about the self, rather than mood, may activate negative self-schema and thus give rise to mood-congruency effects. This argument, however, pertains mostly to research which has

examined mood-congruency for self-referent material. With respect to the present study, it is difficult to account for the mood-congruency findings in terms of the increased accessibility of negative self-referent information given that subjects were asked to make attributions for others' behavior.

General Discussion

Mood influences subjects' memory for past experiences and newly learned material (Blaney, 1986; Ellis et al., 1984), their performance on problem-solving tasks (Masters et al., 1979; Mitchell & Madigan, 1984), their evaluation of performance outcomes (Wright & Mischel, 1982), and their behavior (Isen & Patrick, 1983; Rogers, Miller, Mayer, & Duval, 1982). The present research extends these findings, in demonstrating that mood influences the attribution process as well.

The results of three studies showed that subjects experiencing negative mood are more likely to generate correspondent dispositional attributions for observed social behavior. These findings are consistent with the position that negative mood reduces cognitive effort expenditure and leads to low effort attributional processing.

Attributions categorized as situational or non-dispositional were assumed to require more effortful processing. As such, it was expected that subjects in a positive relative to negative mood would generate a higher frequency of situational and non-dispositional attributions. The results did not support this prediction. The absence of mood effects on the frequency of these attribution categories weakens the support for the effort hypothesis. Characteristics of the methodology which may have fostered effortful processing, and the heterogeneity of the non-

dispositional and situational categories with respect to effort requirements have been discussed as possible explanations of these null effects. Another possibility concerns the extent to which individual differences in response style may have obscured mood differences on the frequencies of these attribution categories. For some subjects, reduced effort expenditure may have been expressed as a higher frequency of low effort attributions, whereas for others, it may have been expressed as a reduced frequency of high effort attributions. In order to control for variance due to individual differences in response style, additional analyses were performed comparing group differences in the ratio of dispositional attributions to non-dispositional and situational attributions. The magnitude of this ratio increases as a function of a higher frequency of dispositional attributions or as a function of a reduced frequency of non-dispositional and situational attributions. The effort hypothesis predicts that the ratio of dispositional attributions to other types of attributions should be greater for subjects in a negative mood relative to subjects in a positive or neutral mood. This prediction was not supported for Experiment 1, although cell means were in the expected direction. The results of analyses for Experiments 2 and 3 were consistent with the effort hypothesis where the magnitude of the ratio was significantly greater for subjects in a negative mood relative to subjects

in the comparison groups (ps < .01).

It is important to note that the interpretation of the above findings in terms of cognitive effort expenditure rests on the assumption that negative mood interferes with effortful processing (Hasher & Zacks, 1979). In the absence of objective measures of effort expenditure, however, this interpretation remains speculative. Convergent validity for the effort hypothesis would be obtained by demonstrating that manipulations aimed at reducing effort expenditure, which do not influence mood state, result in a similar pattern of attributional responding.

In previous research, the effort requirements of mental operations have been defined in terms of task complexity or the quantity of information processed (Cohen et al., 1982; Hasher & Zacks, 1979). While this conceptualization of cognitive effort may be adequate for research examining the encoding and retrieval of novel information, defining effort requirements in terms of information load becomes problematic when applied to attributional processing for social behavior. Although certain attributions may require the processing of considerable information, the effort requirements of these attributions may change as a function of repeated experience with social stimuli. In addition, given that individuals differ with respect to the nature of their social experiences, the effort requirements of specific attributions may not be constant across individuals. These considerations

have likely contributed to the lack of research attention to the effort requirements of non-dispositional and situational attributions.

The present findings are relevant to the position that correspondent dispositional attributions are made automatically. In previous research, failure to find evidence of mediating variables for dispositional attributions has been taken as support for automaticity (Taylor & Fiske, 1978; Winter & Uleman, 1984). In other words, automaticity has been inferred on the basis of null findings. While the absence of evidence for mediation does not rule out the possibility that correspondent dispositional inferences are made automatically, it does not provide an empirical demonstration of automaticity (Bargh, 1984). The present studies demonstrate that, under conditions where subjects are encouraged to engage in effortful attributional processing, manipulations aimed at reducing effort expenditure lead subjects to generate more low effort or possibly automatic attributions. Subjects in a negative mood relative to a positive mood may have been less able to discount automatic correspondent dispositional attributions in favor of non-automatic, situational or non-dispositional attributions (Ajzen et al., 1979; Quattrone, 1982).

In the current studies, the valence of subjects' attributions was, in certain cases, congruent with their current mood. These results are consistent with research

showing that the content of cognition varies with mood state (Blaney, 1986). The observed mood-congruent bias in subjects' attributions in the current studies may be the result of summation effects of activated schemata. The social knowledge structures which are activated by a behavioral stimulus are likely to contain causal information which varies according to affective valence. For example, a woman may refuse an invitation to dinner because she already had plans for the evening (neutral valence), or because she was feeling ill (negative valence). Causal information which was congruent with subjects' mood may have been more accessible to consciousness, and thus more likely to be brought to bear in the attribution task.

The pattern of mood-congruency results obtained in the present studies is not entirely consistent with the predictions of network theory. While mood-congruency effects have been discussed as a general phenomenon, affecting a wide range of cognitive processes, the present data suggest that there may be constraints to mood-congruency effects on attributions. In Experiments 1 and 2, mood-congruency effects were observed only for attributions for negative behaviors. According to network theory (Bower, 1981), mood-congruency effects should have been obtained for attributions made for both positive and negative behaviors. It remains unclear why mood-congruency effects were not obtained for attributions made to the positive behaviors.

The effects of mood on cognitive effort and congruency have been discussed separately thereby implying that they constitute distinct, or independent effects of mood. It is possible however, that they may be variants of the same process. It can be argued that the reductions in cognitive effort observed in negative mood may be the consequence of increased accessibility of negative cognitions (Leight & Ellis, 1981). Negative cognitions which become more accessible to consciousness may compete for attentional capacity thereby limiting the individual's ability to engage in task-relevant cognitions. This position can adequately account for performance deficits associated with negative mood, but it does not readily explain why positive mood, which has also been shown to increase the accessibility of mood-congruent cognitions, enhances performance of effortful tasks (Barden et al., 1979).

It can also be argued that mood-congruency is a direct consequence of reduced cognitive effort. Scrutiny of the mood-congruency literature reveals that negative mood relative to positive mood rarely increases the accessibility of negative information, but rather, it generally decreases the accessibility of positive information (Blaney, 1986). The net effect, therefore, is a decrement in memory accessibility, and what can be considered as mood-congruency with negative mood. Similarly, positive mood increases accessibility to positive information without reducing

accessibility to negative information. The net effect is an increment in memory accessibility. It remains unclear why access to negative information is not readily influenced by mood manipulations.

The results of the present experiments indicate that under conditions where the effort and mood-congruency hypotheses predict different findings, the results tend to be consistent with the predictions of the effort hypothesis. The absence of mood-congruency effects for dispositional attributions can be better explained in terms of mood related changes in effort expenditure than in terms of mood related changes in the accessibility of valenced information. It is possible that effort expenditure may be the primary determinant of observed mood-congruency effects. It would be of interest to examine whether reductions in effort expenditure which are not associated with mood change also produce differences in processing of valenced information.

As previously discussed, the reduced effortful processing associated with negative mood may provide the basis for the attributional pattern observed in depression. Depressed individuals may be less able to consider the host of potential explanations for performance outcomes, and thus may restrict their causal analyses to the less effortful task of inferring disposition directly from behavior.

The reductions in effortful processing associated with negative mood, when considered in conjunction with the mood-

congruency findings; may help explain other cognitive manifestations of negative mood and depression. For example, it has been observed that depressives' self-perceptions are characterized by self-blame and self-devaluation in the presence or absence of negative behavior (Abramson et al., 1978; Becker, 1977; Zautra, Guenther, & Chartier, 1985). Lowered self-evaluations have also been observed as a function of experimentally induced negative mood (Kavanagh & Bower, 1985; Wright & Mischel, 1982). On the basis of the present findings, it is possible to speculate about how negative mood may give rise to self-devaluative cognitions.

As noted, self-devaluative cognitions may arise following the occurrence of a negative behavior as a consequence of making a correspondent inference for the behavior. In the absence of behavior, the individual experiencing a negative mood state nevertheless has increased access to negative information, including negative information about the self (Derry & Kuiper, 1981). As a function of decreased cognitive effort, the depressed individual is more likely to make dispositional attributions for the negative behavior which is recalled. This process then becomes recursive as the affective consequences of self-blame serve to intensify or prolong the negative affect (Weiner, Russell, & Lerman, 1978).

Some investigators have attempted to account for the perpetuation of negative mood states solely on the basis of

mood-congruency findings (Bower,1981; Teasdale & Fogarty, 1979). They argue that depressed mood increases the recall of unpleasant memories, and in turn, these memories feed back to intensify and prolong the depressed mood. These models, however, fail to explain why depressed individuals do not make external attributions for negative memories and thus avoid their negative affective consequences (McFarland & Ross, 1982). By considering the findings that individuals experiencing a negative mood expend less effort in causal reasoning, their propensity toward self-blame can be better explained.

It is also useful to consider how reduced effortful processing may serve to foster self-devaluative cognition in the context of social comparison. For example, the results of Experiment 3 demonstrated that depressed subjects make correspondent dispositional inferences for others' behavior, while non-depressed subjects make less extreme judgments. Thus, compared to non-depressed controls, depressed subjects' impressions of other people are more strongly determined by the valence of observed behaviors. Assuming that positive behaviors are more frequently observed than negative behaviors, depressives may be more prone to ascribe overly positive attributes to the individuals in their environments while ascribing negative attributes to themselves (Pietromonaco & Markus, 1985). The negative self-perceptions of depressed individuals may contrast sharply with their

positive perceptions of others, thus fostering the perpetuation of self-devaluative cognitions.

To summarize, the results of three studies are consistent with, and extend, the findings of previous research in the area of cognitive emotional processing. In addition, the present findings provide the basis for a theoretical account of the cognitive processes which have been observed as a function of negative mood and depression.

References

Abramson, L.Y., Seligman, M.E.P., & Teasdale, J.P. (1978). Learned helplessness in humans: Critique and reformulation. Journal of Abnormal Psychology, 87, 49-74.

Ajzen, I., Dalto, C.A., & Blyth, D.P. (1979). Consistency and bias in the attribution of attitudes. Journal of Personality and Social Psychology, 37, 1871-1876.

Alloy, L.B., & Abramson, L.Y. (1979). Judgment of contingency in depressed and non-depressed students: Sadder but wiser ? Journal of Experimental Psychology: General, 108, 441-485.

Anderson, C.A. (1983). The causal structure of situations: The generation of plausible causal attributions as a function of type of event situation. Journal of Experimental Social Psychology, 19, 185-203.

Bargh, J.A. (1984). Automatic and conscious processing of social information. In R.S. Wyer & T.K. Srull (Eds.). Handbook of Social Cognition, Vol 3. Hillsdale, NJ; Erlbaum.

Bassili, J.N., & Smith, M.C. (1986). On the spontaneity of trait attribution: Converging evidence for the role of cognitive strategy. Journal of Personality and Social Psychology, 50, 239-245.

Beck, A.T. (1967). Depression. New York: Hoeber.

Becker, J. (1977). Affective Disorders. Morristown, N.J.: General Learning.

Black, J.B., Galambos, J.A., & Read, S.J. (1984). Comprehending stories and social situations. In R.S. Wyer & T.K. Srull (Eds.), Handbook of Social Cognition. Hillsdale, NJ; Erlbaum.

Blaney, P.H. (1986). Affect and memory: A review. Psychological Bulletin, 99, 229-246.

Brewer, D., Doughtie, E.B., & Lubin, B. (1980). Induction of mood and mood shift. Journal of Clinical Psychology, 36, 215-226.

Brewin, C.R. (1985). Depression and causal attributions: What is their relation ? Psychological Bulletin, 98, 297-309.

Brewin, C.R., & Harris, J. (1985). Induced mood and causal attributions: Further evidence. Cognitive Therapy and Research, 9, 225-229.

Bower, G.H. (1981). Mood and memory. American Psychologist, 36, 129-148.

Bower, G.H., Gilligan, S.G., & Monteiro, K.P. (1981). Selectivity of learning caused by affective states. Journal of Experimental Psychology: General, 110, 451-473.

Bumberry, W., Oliver, J.M., & McClure, J.N. (1978). Validation of the Beck Depression Inventory in a university population using the psychiatric estimate as

the criterion. Journal of Consulting and Clinical Psychology, 46, 150-155.

Carlston, D.E. (1980). Events, inferences, and impression formation. In R. Hastie, T.M. Ostrom, E.B. Ebbesen, R.S. Wyer, D.L. Hamilton, & D.E. Carlston. Person Memory: The Cognitive Basis of Social Perception, Hillsdale, NJ: Erlbaum.

Cohen, R.M., Weingartner, H., Smallberg, S.A., Pickar, D., & Murphy, D.L. (1982). Effort and cognition in depression. Archives of General Psychiatry, 39, 593-597.

Coyne, J.C., & Gotlib, I.H. (1983). The role of cognition in depression: A critical appraisal. Psychological Bulletin, 94, 472-505.

Derry, P.A., & Kuiper, N.A. (1981). Schematic processing and self-reference in clinical depression. Journal of Abnormal Psychology, 90, 286-297.

Elig, T.W., & Frieze, I.H. (1974). A multi-dimensional coding scheme of causal attributions in social and academic situations. Personality and Social Psychology Bulletin, 1, 94-96.

Ellis, H.C., Thomas, R.L., & Rodriguez, I.A. (1984). Emotional mood states and memory: Elaborative encoding, semantic processing and cognitive effort. Journal of Experimental Psychology: Learning, Memory and Cognition, 10, 470-482.

Ferguson, G.A. (1976). Statistical Analysis in Psychology

and Education, New York; McGraw-Hill.

Fisk, A.D. (1986). Frequency encoding is not inevitable and is not automatic: A reply to Hasher and Zachs. American Psychologist, 41, 215-216.

Fiske, S.T., Kenny, D.A., & Taylor, S.E. (1982). Structural models for the mediation of salience effects on attribution. Journal of Experimental Social Psychology, 18, 105-127.

Forgas, J.P., Bower, G.H., & Krantz, S.E. (1984). The influence of mood on perceptions of social interactions. Journal of Experimental Social Psychology, 20, 497-513.

Gilbert, D.T., & Jones, E.E. (1986). Perceiver-induced constraint: Interpretations of self-generated reality. Journal of Personality and Social Psychology, 50, 269-280.

Hansen, R.D. (1985). Cognitive economy and commonsense attribution processing. In J. Harvey and G. Weary (Eds.), Attribution: Basic Issues and Applications. New York: Academic Press.

Hasher, L., & Zacks, R.T. (1979). Automatic and effortful processes in memory. Journal of Experimental Psychology: General, 108, 356-388.

Hasher, L., & Zachs, R.T. (1984). Automatic processing of fundamental information: The case of frequency of occurrence. American Psychologist, 39, 1372-1388.

Heider, F. (1958). The Psychology of Interpersonal

Relations. New York: Wiley & Sons.

Higgins, E.T., & Bryant, S.L. (1982). Consensus information and the fundamental attribution error: The role of development and in-group versus out-group knowledge. Journal of Personality and Social Psychology, 43, 889-900.

Higgins, E.T., Rholes, W.J., & Jones, C.R. (1977). Category accessibility and impression formation. Journal of Experimental Social Psychology, 13, 141-154.

Isen, A.M. (1984). Toward understanding the role of affect in cognition. In R.S. Wyer & T.K. Srull (Eds.), Handbook of Social Cognition, Vol 3. Hillsdale, NJ: Erlbaum.

Isen, A.M., Means, B., Patrick, R., & Nowicki, G. (1982). Some factors influencing decision-making strategy and risk taking. In M.S. Clark & S.T. Fiske (Eds.), Affect and Cognition. Hillsdale, NJ; Erlbaum.

Isen, A.M., & Patrick, R. (1983). The effects of positive feelings on risk taking: When the chips are down. Organizational Behavior and Human Performance, 31, 194-202.

Johnson, E., & Tversky, A. (1983). Affect, generalization, and the perception of risk. Journal of Personality and Social Psychology, 45, 20-31.

Johnson, M.H., & Magaro, P.A. (1987). Effects of mood and severity on memory processes in depression and mania.

Psychological Bulletin, 101, 28-40.

Jones, E.E. (1979). The rocky road from acts to dispositions. American Psychologist, 34, 107-117.

Jones, E.E., & Davis, L.E. (1965). From acts to dispositions: The attribution process in person perception. In L. Berkowitz (Ed.). Advances in Experimental Social Psychology, Vol 2. New York: Academic Press.

Jones, E.E., & McGillis, D. (1976). Correspondent inferences and the attribution cube: A comparative reappraisal. In J.H. Harvey, W.J. Ickes, and R.F. Kidd (Eds.). New Directions in Attribution Research, Vol 1. Hillsdale, N.J.: Erlbaum.

Jones, E.E., & Nisbett, R.E. (1972). The actor and the observer: Divergent perceptions of the causes of behavior. In E.E. Jones, D.E. Kanouse, H.H. Kelley, R.E. Nisbett, S. Valins, and B. Weiner (Eds.), Attribution: Perceiving the Causes of Behavior. Morristown, N.J.: General Learning Press.

Kassin, S.M., & Baron, R.M. (1985). Basic determinants of attribution and social perception. In J. Harvey and G. Weary (Eds.), Attribution: Basic Issues and Applications. New York: Academic Press.

Kassin, S.M., & Baron, R.M. (1986). On the basicity of social perception cues: Developmental evidence for

adult processes? Social Cognition, 4, 180-200.

Kavanagh, D.J., & Bower, G.H. (1985). Mood and self-efficacy: Impact of joy and sadness on perceived capabilities. Cognitive Therapy and Research, 9, 507-525.

Kruglanski, A.W. (1980). Lay epistemo-logic -- Process and contents: Another look at attribution theory. Psychological Review, 87, 70-87.

Lang, P.J. (1979). A bio-informational theory of emotional imagery. Psychophysiology, 16, 495-512.

Lazarus, R.S., & Folkman, S. (1984). Stress, Appraisal and Coping. New York: Springer.

Leight, K.A., & Ellis, H.C. (1981). Emotional mood states, strategies, and state-dependency in memory. Journal of Verbal Learning and Verbal Behavior, 20, 251-266.

Lloyd, G.G., & Lishman, W.A. (1975). Effects of depression on speed of recall of pleasant and unpleasant experiences. Psychological Medecine, 5, 173-180.

Masters, J.C., Barden, R.C., & Ford, M.E. (1979). Affective states, expressive behavior, and learning in children. Journal of Personality and Social Psychology, 37, 380-390.

McArthur, L.Z., & Post, D.L. (1977). Figural emphasis and person perception. Journal of Experimental Social Psychology, 13, 520-535.

McDowall, J. (1984). Recall of pleasant and unpleasant words

in depressed subjects. Journal of Abnormal Psychology, 93, 401-407.

McFarland, C., & Ross, M. (1982). Impact of causal attributions on affective reactions to success and failure. Journal of Personality and Social Psychology, 43, 937-946.

Miller, D.T., & Ross, M. (1975). Self-serving biases in the attribution of causality: Fact or fiction? Psychological Bulletin, 82, 213-225.

Mitchell, J.E., & Madigan, R.J. (1984). The effects of induced elation and depression on interpersonal problem-solving. Cognitive Therapy and Research, 8, 277-285.

McNair, D.M., Lorr,M., & Droppleman, L.F. (1971). Manual: Profile of Mood States. San Diego, CA: Educational and Industrial Testing Service.

Pietromonaco, A., & Markus, H. (1985). The nature of negative thoughts in depression. Journal of Personality and Social Psychology, 48, 799-807.

Posner, M.I., & Snyder, C.R.R. (1975). Attention and cognitive control. In R.L. Solso (Ed.), Information Processing and Cognition: The Loyola Symposium. Hillsdale, N.J.: Erlbaum.

Quattrone, G.A. (1982). Overattribution and unit formation: When behavior engulfs the person. Journal of Personality and Social Psychology, 42, 593-607.

Raps, C.S., Petterson, C., Reinhard, K.E., Abramson, L.Y., &

Seligman, M.E.P. (1982). Attributional style among depressed patients. Journal of Abnormal Psychology, 91, 102-108.

Read, S.J. (1987). Constructing causal scenarios: A knowledge structure approach to causal reasoning. Journal of Personality and Social Psychology, 52, 288-302.

Reeder, G.D. (1985). Implicit relations between dispositions and behaviors: Effects on dispositional attribution. In J. Harvey and G. Weary (Eds.), Attribution: Basic Issues and Applications. New York: Academic Press.

Reeder, G.D., & Brewer, M.B. (1979). A schematic model of dispositional attribution in interpersonal perception. Psychological Review, 86, 61-79.

Rholes, W.S., Riskind, J.H., & Lane, J.W. (1987). Emotional mood states and memory biases: Effects of cognitive priming and mood. Journal of Personality and Social Psychology, 52, 91-99.

Rizley, R. (1978). Depression and distortion in the attribution of causality. Journal of Abnormal Psychology, 87, 32-48.

Rogers, M., Miller, N., Mayer, F.S., & Duval, S. (1982). Personal responsibility and salience of the request for help: Determinants of the relation between negative affect and helping. Journal of Personality and Social Psychology, 43, 956-970.

Schank, R.C., & Abelson, R.P. (1977). Scripts, Plans, Goals and Understanding. Hillsdale, N.J.: Erlbaum.

Schneider, W., & Fisk, A.D. (1982). Concurrent automatic and controlled visual search: Can processing occur without resource cost? Journal of Experimental Psychology: Human Learning and Memory, 8, 261-278.

Schneider, W., & Shiffrin, R.M. (1977). Controlled and automatic human information processing: I. Detection, search, and attention. Psychological Review, 84, 1-66.

Seligman, M.E.P. (1975). Helplessness: On Depression, Development, and Death. San Francisco: Freeman.

Sherman, R.C., & Titus, W. (1982). Covariation information and cognitive processing: Effects of causal implications on memory. Journal of Personality and Social Psychology, 42, 989-1000.

Silberman, E.K., Weingartner, H., & Post, R.M. (1983). Thinking disorder in depression: Logic and strategy in an abstract reasoning task. Archives of General Psychiatry, 40, 775-780.

Sirota, A.D., & Schwartz, G.E. (1982). Facial muscle patterning and lateralization during elation and depression imagery. Journal of Abnormal Psychology, 91, 25-34.

Smith, E.R. (1984). Attributions and other inferences: Processing information about the self versus others. Journal of Experimental Social Psychology, 20, 97-115.

Smith, E.R., & Miller, F.D. (1979). Salience and the cognitive mediation of attribution. Journal of Personality and Social Psychology, 37, 2240-2252.

Smith, E.R., & Miller, F.D. (1983). Mediation among attributional inferences and comprehension processes: Initial findings and a general method. Journal of Personality and Social Psychology, 44, 492-505.

Srull, T.K., & Wyer, R.S., Jr. (1979). The role of category accessibility in the interpretation of information about persons: Some determinants and implications. Journal of Personality and Social Psychology, 37, 1660-1672.

Taylor, S.E., Crocker, J., Fiske, S.T., Sprinzen, M., & Winkler, J.D. (1979). The generalizability of salience effects. Journal of Personality and Social Psychology, 37, 357-368.

Taylor, S.E., & Fiske, S.T. (1978). Salience, attention, and attribution: Top of the head phenomena. In L. Berkowitz (Ed.), Advances in Experimental Social Psychology, (Vol 11). New York: Academic Press.

Teasdale, J.D., & Fogarty, S.J. (1979). Differential effects of induced mood on retrieval of pleasant and unpleasant memories from episodic memory. Journal of Abnormal Psychology, 88, 248-257.

Velten, E.A. (1968). A laboratory task for the induction of mood states. Behavior Research and Therapy, 6, 473-482.

Weiner, B. (1985). Spontaneous causal reasoning.

Psychological Bulletin, 97, 74-84.

Weiner, B., Russell, D., & Lerman, D. (1978). Affective consequences of causal ascriptions. In J.H. Harvey, W.J. Ickes, and R.F. Kidd (Eds.). New Directions in Attribution Research, Vol 2. Hillsdale, N.J.: Erlbaum.

Weingartner, H., Cohen, R.M., Murphy, D.L., Martello, J., & Gerdt, C. (1981). Cognitive processes in depression. Archives of General Psychiatry, 38, 42-47.

Winter, L., Cunniff, C., & Uleman, J. (1984). Social judgments as automatic processes: Absence of improvement with instruction. Paper presented at the 92nd Meeting of the American Psychological Association, Toronto, Ontario, Canada, August.

Winter, L., & Uleman, J.S. (1984). When are social judgments made ? Evidence for the spontaneousness of trait inferences. Journal of Personality and Social Psychology, 47, 237-252.

Worth, L.T., & Mackie, D.M. (1987). Cognitive mediation of positive affect in persuasion. Social Cognition, 5, 76-94.

Wright, J., & Mischel, W. (1982). Influence of affect on cognitive social learning person variables. Journal of Personality and Social Psychology, 43, 901-914.

Wyer, R.S., & Srull, T.K. (1980). The processing of social stimulus information: A conceptual integration. In R. Hastie, T.M. Ostrom, E.B. Ebbesen, R.S. Wyer, D.L.

Hamilton, and D.E. Carlston (Eds.). Person Memory: The Cognitive Basis of Social Perception. Hillsdale, N.J.: Erlbaum.

Zacks, R.T., Hasher, L., & Hock, H.S. (1986). Inevitability and automaticity: Response to Fisk. American Psychologist, 41, 216-218.

Zautra, A.J., Guenther, R.T., & Chartier, G.M. (1985). Attributions for real and hypothetical events: Their relation to self-esteem and depression. Journal of Abnormal Psychology, 94, 530-540.

APPENDIX A

Introductory Rationale

For Experiments 1 and 2

AGE DIFFERENCES STUDY

In this study, we are examining the types of details people remember about certain life experiences thay have had. We are asking people from different age groups about specific life experiences in order to understand more about age differences in memory for detail. The first thing you will be asked to do is to describe two recent life experiences. We are interested in examining people's memory for different kinds of events. You will be randomly assigned to describe either a routine event, or a less frequent event. The type of less frequent event we are interested in is something that was particularly important to you.

You will first be asked to describe two events, and at a later point in the study, you will be asked to remember one of these events a second time. There will be a delay period between the first and second time you remember the event. The reason for this is that people don't always report the same details the second time they describe an event. We are interested in how you might remember different specific details, or remember the same details in a different way each time you describe the event. For example, people sometimes remember more details of an event the more they think about the event. In other cases, the memories stay the same, but they are clearer the second time.

During the delay period bewteen the first and second time you remember the events, you will be asked to complete a

different task. This task is related to the second purpose of this study which is to examine age differences in the types of judgments individuals make about another person's behavior. Sometimes, people who are different in age analyze social situations in the same way. In other cases, the age differences seem to matter because people of different ages make different judgments. In this study, we are trying to understand when and how people of different age groups make different judgments.

You will be asked to listen to descriptions of another person's behavior, and you will be asked to write down why you think the person behaved in that manner. You will not be given detailed information on which to make your judgment. This is because, in real life, it frequently occurs that people make judgments based on limited amounts of information. This is what you are asked to do in this part of the study.

In sum, you will first be asked to describe twi life events. Second, you will be asked to make judgments about other people's behavior. Third, you will be asked to think back to the two events you described, and remember once again, one of the events which will be selected at random.

Your responses will remain completely anonymous and confidential. When writing your responses, don't worry about spelling or punctuation. Please note that participation is voluntary and that you may withdraw at any time.

APPENDIX B

Instructions for Mood Induction Procedure

For Experiments 1 and 2

NEGATIVE MOOD INDUCTION

(Event 1)

We would like you to describe, as vividly and in as much detail as possible, a RECENT life experience that made you feel REALLY BAD. Try to picture the experience happening to you, the details of the situation, the people who were there. Try to remember HOW the situation made you feel, WHAT aspects of the situation made you feel that way, as well as the thoughts you had during the experience.

You will have 8 minutes to write about this experience. Please describe the event in as much detail as possible. We are particularly interested in the type of details people remember.

Your descriptions of events will remain anonymous and confidential. Please describe the event as you remember it.

(Event 2)

We would like you to describe, as vividly and in as much detail as possible, another RECENT life experience that made you feel REALLY BAD. If you have already described a negative event, please now describe a different negative event. Try to picture the experience happening to you, the details of the situation, the people who were there. Try to

remember HOW the experience made you feel, WHAT aspects of the situation made you feel that way, as well as the thoughts you had during the experience.

You will have 8 minutes to write about this experience. Please describe the event in as much detail as possible. We are particularly interested in the type of details people remember.

Your descriptions of events will remain anonymous and confidential. Please describe the event as you remember it.

POSITIVE MOOD INDUCTION

(Event 1).

We would like you to describe, as vividly and in as much detail as possible, a RECENT life experience that made you feel REALLY GOOD. Try to picture the experience happening to you, the details of the situation, the people who were there. Try to remember HOW the situation made you feel, WHAT aspects of the situation made you feel that way, as well as the thoughts you had during the experience.

You will have 8 minutes to write about this experience. Please describe the event in as much detail as possible. We are particularly interested in the type of details people remember.

Your descriptions of events will remain anonymous and confidential. Please describe the event as you remember it.

(Event 2)

We would like you to describe, as vividly and in as much detail as possible, another RECENT life experience that made you feel REALLY GOOD. If you have already described a positive event, please now describe a different positive event. Try to picture the experience happening to you, the details of the situation, the people who were there. Try to

remember HOW the experience made you feel, What aspects of the situation made you feel that way, as well as the thoughts you had during the experience.

You will have 8 minutes to write about this experience. Please describe the event in as much detail as possible. We are particularly interested in the type of details people remember.

Your descriptions of events will remain anonymous and confidential. Please describe the event as you remember it.

NEUTRAL MOOD INDUCTION

(Event 1)

We would like you to describe, as vivdly and in as much detail as possible, the route you take to get to school/work. Try to picture the different things along your way, the buildings, the streets, the green spaces, the stores. Describe the route as if you were providing someone with directions about how to get from your home to school or work.

You will have 8 minutes to describe the route you take to get to school/work. Please describe this route in as much detail as possible. We are particularly interested in the types of details people remember.

Your descriptions will remain anonymous and confidential. Please describe the route as you remember it.

(Event 2)

We would like you to describe, as vividly and in as much detail as possible, the route you take to get to school/work. If you have already described the route you take to get to school/work, please now describe a different route you can take. Try to picture the different things along your way, the buildings, the streets, the green spaces, the stores. Describe the route as if you were providing someone with directions about how to get from your home to school or work.

You will have 8 minutes to describe the route you take

to get to school or work. Please describe this route in as much detail as possible. We are particularly interested in the type of details people remember.

Your descriptions will remain anonymous and confidential. Please describe the route as you remember it.

APPENDIX C

Instructions for the Attribution Task

For Experiments 1, 2, and 3

BEHAVIOR DESCRIPTIONS

In this part of the study, you will listen to a few short descriptions of the behavior of individuals. You will be asked to make judgments about the behaviors. You will be asked to list the possible reasons for each behavior described. Please note that there are no right or wrong answers. We are simply interested in the different things that you think could have caused the behavior.

After listening to each description of behavior, you will hear a question concerning the behavior. Once you hear the question, please write down as many reasons as you can think of. Write down the reasons as they come to mind.

Your responses will be anonymous and confidential.

APPENDIX D

Behavior Descriptions Used in Experiment 1

MARY

Mary reached her door and heard the phone ringing. She hurried inside to make it in time. It was Larry, her boyfriend. He told her that he would pick her up at eight and take her out to the ball game. Mary told Larry that she would prefer to spend the evening alone.

JOHN

John was driving down the road when he noticed a hitch-hiker a few hundred yards ahead. He came to a stop and asked the hitch-hiker where he was going. The hitch-hiker said he was on the way to the train station which was about 5 miles further than John had planned to go. John told the hitch-hiker he would drive him to the station.

GEORGE

George looked at his watch to see how long it had been since he placed his order. The restaurant was filled with the usual lunchtime crowd, and George watched as the waiter rushed from table to table. When the waiter arrived with George's meal, George said he no longer wanted the food. He took his coat and left.

SANDRA

Sandra was walking with a friend on the way to the shopping mall. Up ahead, she noticed an old man with his hand outstretched asking for change. Sandra pulled a few coins from her pocket, gave them to the old man, and wished him a good day.

APPENDIX E

Mood Questionnaire Used in Experiment 1

MOOD QUESTIONNAIRE

We would like you to rate how you are feeling at this very moment. Please indicate your present feelings by circling a number on each of the scales.

1 2 3 4 5 6 7 8 9

not at all a little bit moderately quite a bit extremely

AT THIS MOMENT...

1) I feel SATISFIED	1	2	3	4	5	6	7	8	9
2) I feel PLEASED	1	2	3	4	5	6	7	8	9
3) I feel DISCOURAGED	1	2	3	4	5	6	7	8	9
4) I feel DELIGHTED	1	2	3	4	5	6	7	8	9
5) I feel GLOOMY	1	2	3	4	5	6	7	8	9
6) I feel UNEASY	1	2	3	4	5	6	7	8	9
7) I feel DISPLEASED	1	2	3	4	5	6	7	8	9
8) I feel CALM	1	2	3	4	5	6	7	8	9
9) I feel UPSET	1	2	3	4	5	6	7	8	9
10) I feel GOOD	1	2	3	4	5	6	7	8	9
11) I feel TENSE	1	2	3	4	5	6	7	8	9
12) I feel BAD	1	2	3	4	5	6	7	8	9
13) I feel JOYFUL	1	2	3	4	5	6	7	8	9
14) I feel CONTENTED	1	2	3	4	5	6	7	8	9
15) I feel SAD	1	2	3	4	5	6	7	8	9

APPENDIX F

Behavior Descriptions Used in Experiments 2 and 3

MARY

Mary reached her door and heard the phone ringing. She hurried inside to make it in time. It was Larry her boyfriend. He told her that he would pick her up at eight and take her out to dinner.

Pos. Beh. - Mary told Larry that she would treat him to dinner tonight.

Neg. Beh. - Mary told Larry that she would prefer to spend the evening alone.

JOHN

John slowed down and came to a stop at the red light. As he waited for the light to turn green, John noticed someone approach his car and start talking to him.

Pos. Beh. - John offered the person a ride.

Neg. Beh. - John ignored the person and drove off.

PAUL

Paul was studying when he heard some noise coming from the hallway. When he opened the door, he noticed that some people were moving in down the hall.

Pos. Beh. - Paul offered to help them move.

Neg. Beh. - Paul asked them to not make so much noise.

SUSAN

Susan came home and noticed a note tacked onto the apartment

door. The note was from Susan's roomate, telling Susan that she would be late coming home, and asking her to prepare dinner for the two of them.

Pos. Beh. - Susan prepared her roomate's favorite meal.

Neg. Beh. - When her roomate arrived, Susan said that she had not seen the note.

APPENDIX G

Mood Questionnaire Used in Experiments 2 and 3

MOOD QUESTIONNAIRE

Please rate how you are feeling at this very moment. Indicate your present feelings by circling a number on each of the scales.

AT THIS MOMENT ...

I feel SATISFIED

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

not at all a little bit moderately quite a bit extremely

I feel ENERGETIC

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

not at all a little bit moderately quite a bit extremely

I feel DISCOURAGED

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

not at all a little bit moderately quite a bit extremely

I feel PEACEFUL

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

not at all a little bit moderately quite a bit extremely

I feel UNWORTHY

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

not at all a little bit moderately quite a bit extremely

I feel TIRED

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

not at all a little bit moderately quite a bit extremely

I feel CALM

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

not at all a little bit moderately quite a bit extremely

I feel ANGRY

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

not at all a little bit moderately quite a bit extremely

I feel GOOD

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

not at all a little bit moderately quite a bit extremely

I feel TENSE

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

not at all a little bit moderately quite a bit extremely

AT THIS MOMENT ...

I feel REFRESHED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
not at all a little bit moderately quite a bit extremely

I feel LONELY
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
not at all a little bit moderately quite a bit extremely

I feel MISERABLE
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
not at all a little bit moderately quite a bit extremely

I feel HAPPY
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
not at all a little bit moderately quite a bit extremely

I feel ANNOYED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
not at all a little bit moderately quite a bit extremely

I feel HELPFUL
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
not at all a little bit moderately quite a bit extremely

I feel SAD
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
not at all a little bit moderately quite a bit extremely

I feel AGREEABLE
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
not at all a little bit moderately quite a bit extremely

I feel DESPERATE
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
not at all a little bit moderately quite a bit extremely

I feel PLEASED
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
not at all a little bit moderately quite a bit extremely