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Abstract

The present study investigated whether mood influences the way in which people make judgments and recognize information. In this study, three major theoretical interpretations were examined; Accessibility Theory (Bower, 1981; Isen, Shalker, Clark, & Karp, 1978) proposes that mood acts to make mood-relevant cognitions more available to an individual, Attribution Theory (Johnson & Tversky, 1983; Kelley, 1973) proposes that mood affects judgment through a process of misattribution of the mood state, and the Informational Functions Hypothesis (Schwars & Clore, 1983; Wyer & Carlston, 1979) postulates that people use their moods as information when making judgments. Hypnotic volunteers were induced into positive and negative moods and were then instructed to make judgments concerning positive, neutral, and negative characters presented in short descriptions. Volunteers also completed recognition tests for statements from these character stories which were designed to evaluate whether volunteers' misrecognitions might be biased according to their mood state. Results of the judgment measures favored the informational view as generalized effects of mood on judgment were found regardless of whether the thematic or evaluative nature of the mood was congruent to the object of judgment. Results of the recognition tests were best explained in attributional terms as mood seemed to bias recognition memory for negative mood volunteers concerning mood-relevant story characters. A lack of a similar effect for the positive mood condition is discussed in the framework of the directive effects of mood states (Wyer & Carlston, 1979).
The Effects of Mood on Judgment and Memory:
The Informational Function of Affective States

Throughout our lives we have all experienced a variety of moods and emotions. Surely most everyone has felt the anger of an argument, the sadness and depression at the death of a friend or relative, or the energized elation that results when a special person expresses their affection. What I would like to consider from these examples are the effects an emotional experience or state has on a person's cognitions, judgments, and memory. Specifically, I will critically examine three theoretical approaches, Attribution Theory (Johnson & Tversky, 1983; Kelley, 1973), Accessibility Theory (Bower, 1981; Isen, Shalker, Clark, & Karp, 1978), and the Informational Functions Hypothesis (Schwarz & Clore, 1983; Wyer & Carlston, 1979), that have attempted to explain the effects of mood and emotions on an individual's judgments and behavior. The current study was completed in an effort to compare and contrast these theories' explanations of mood effects on various judgments and recognition memory.

Accessibility Theory

The relationship between affect and memory, though increasingly studied, remains open to many interpretations. Numerous theories of the human memory system have been proposed to explain the storage and retrieval of information and how this information affects the individual. The idea that memory is structured as a set of interconnected categories of information was the basis behind a study by Higgins, Rholes, and Jones (1977). This study, though not concerned
with moods or emotions, represents a theoretical framework within which moods and emotions may be treated. Higgins et al. unobtrusively exposed volunteers to personality trait terms and then, in a supposedly unrelated study, the same volunteers were asked to characterise and evaluate a person presented to them in an ambiguous story. Higgins et al. hypothesised that prior exposure to the trait terms would activate or prime those trait-related categories in memory making them more accessible and, therefore, increase the likelihood that the volunteers characterise and evaluate the stimulus person in terms of the activated categories. Obtained results reliably supported this accessibility hypothesis. Higgins et al. suggested that there is a direct semantic relation between some aspect of the primed category and the stimulus information.

Currently, doses of affect have been injected into prominent memory theories and the proposals of priming and increased accessibility of material in memory have become central to the explanation of the effects of moods and emotions for many theorists (Bower, 1981; Isen et al., 1978). After studying the effects of moods or feeling states (primarily positive) on judgments and behavior, Isen et al. (1978) proposed that being in a positive mood state primes positive mood-related material in memory. This primed material becomes more accessible and thus more likely to be retrieved. Isen et al. further proposed that a "cognitive loop" is created as the accessed positive thoughts tend to keep an individual thinking about positive things. Thus, Isen et al. suggest that a mood-inducing event cues other affectively similar material in memory in much the same way that trait words were found to cue material
from that category in memory (Higgins et al., 1977).

This line of theorizing about affect and memory, emphasizing priming and accessibility, was continued and expanded upon by Bower in 1981. Bower proposed an associative network theory of memory and emotion. In this theory, human memory consists of an associative network of semantic concepts and schemata (nodes) that are used to describe events. Bower suggests that a distinct emotion, such as fear or joy, has a specific node in memory connected by associative links to other aspects of that emotion and to events during which that emotion was aroused. Therefore, inducing a state of anger in an individual will spread excitation to all connected nodes so that anger-related memories are activated or primed. Bower's theory also assumes an equivalent paradigm of spreading excitation and accessibility for both positive and negative emotional states.

Bower's (1981) network view of emotion and memory has several implications. First, it implies a mood-dependent retrieval effect. Because memories become linked with the mood prevailing during learning, their recall is improved by reinstating the same mood during recall testing. In one study, Bower (1981) used hypnosis to induce volunteers to feel happy while learning one word list and sad while learning a second list. Later, when happy, volunteers recalled the happy list better than the sad list, and, when sad, they recalled the sad list better. The network theory explains this effect by assuming that the present mood acts like an automatic cue activating the memories associated with it. Thus, mood-dependent retrieval is hypothesized to result from the memory search advantage conferred by having an
Bower (1981) also addressed the issue of whether state-dependency would occur for recall of actual events drawn from a person's emotional life. Volunteers were asked to record their emotional incidents for a week and rate them for pleasantness on a ten point intensity scale. The results showed that volunteers induced into a pleasant mood recalled a greater percentage of their recorded pleasant experiences than of their unpleasant experiences, whereas the reverse was true for unpleasant mood volunteers. After recall, volunteers were also asked to rate the current emotional intensity of the incidents. The results of the intensity rating, however, were not predicted by network or accessibility theory. Bower found that volunteers simply shifted their rating scale toward their current mood. Thus, if the volunteers were feeling happy, the recalled incidents were judged as more pleasant (less unpleasant); if they were feeling sad, the incidents were judged more unpleasant (less pleasant) than originally. Bower wrote: "This should be familiar—here are the rose-colored glasses of the optimist and the somber gray outlook of the pessimist" (1981, p. 133). In this case, a volunteer in a positive mood is recalling negative incidents and rating them as less negative according to their prevailing feelings. This is an example of a current mood state affecting judgments concerning memories that are incongruent to that mood and the Accessibility Hypothesis does not predict this outcome. Though it appears that mood-dependent effects are real, it also appears that moods have pervasive effects unaccounted for by network theory.
Attribution Theory

Theories of attribution have generally assumed that an individual attempts to understand the causal relationships that govern interactions with the environment (Jones & Davis, 1965; Kelley, 1973). Thus, each person is seen as a scientist who spends a large amount of time inferring relationships and causality in an effort to make sense out of a complex world. In this context, subjective experiences of mood and emotion, like a person's behavior, may be considered simply as informational aspects of a situation that might be employed in the process of causal attributions. Wyer and Carlston (1979) proposed two possible functions of affective states on information processing, informational and directive. An informational function, for example, could be the subjective experience of pleasantness felt when in the presence of a loved one. In other words, this judgment of attraction is partly based on the information provided by a person's happy mood. Affective states also seem to have directive functions in that persons are motivated to explain and alleviate negative moods and perpetuate positive moods. This seems quite intuitive, as many people read humorous books to "cheer up" while people rarely want to get out of a good mood.

Recent research has compared the Accessibility and the Attribution lines of theory in two studies that investigated whether judgments of happiness and satisfaction with one's life are influenced by mood at the time of judgment (Schwarz and Clore, 1983). In the first experiment, moods were induced through having volunteers write vivid descriptions of
either a happy or sad event in their own recent past. The experiment was conducted in an unusual sound-proof room and volunteers were then told that the room might make them feel tense and depressed, elated and high, or told nothing about the room.

Schwarz and Clore expected that volunteers who described negative life-events would report being less happy and satisfied than control volunteers, whereas volunteers who described positive life-events would report being more happy and satisfied than controls. However, if people use their affective states as information in judgments of the quality of their lives (Wyer and Carlston, 1979), attributional discounting and augmentation effects (Kelley, 1971) should occur as a result of expectations volunteers have about the experimental room. And, to the extent that moods have directive functions (Wyer and Carlston, 1979) in that persons are motivated to explain and alleviate negative moods and perpetuate positive moods, discounting and augmentation should only occur for volunteers who described negative life-events. More specifically, volunteers who described negative life-events were expected to discount their bad mood when the bad mood could be disattributed to the room. Thus, they should report less unhappiness and dissatisfaction than the no expectation group. When these volunteers expected the room to make them feel elated, they should report more unhappiness and dissatisfaction than the no expectation group. Finally, Schwarz and Clore hypothesized that if mood is irrelevant to judgments of well-being or affects them only through increased availability of mood-congruent cognitions (Bower, 1981; Iven et al., 1978), only a main effect of the quality of the life-events
described should be found, because the explanation of one's mood should be independent of the impact of salient cognitions. The data of this and a following study (Schwarz and Clore, 1983) were consistent with both the informative and directive effects hypotheses and support the notion that a person's mood has informational and directive functions in attributional processes.

In a recent series of experiments, Johnson and Tversky (1983) found effects of mood states on judgments that further differentiate the competing theories. Johnson and Tversky (1983) completed two studies in which negative mood states were induced in volunteers by presenting them with newspaper-like stories concerning death by various causes such as cancer and murder. Volunteers were then asked to estimate the frequency of various causes of death. The results of both studies showed that volunteers who read the tragic stories estimated all causes of death as significantly more prevalent than volunteers who did not read any stories. These results are understandable in Accessibility Theory terms since both death-related cognitions and negative mood were primed. It seems reasonable, therefore, that judgments relative to frequencies of other causes of death might increase.

In a third experiment, however, the same paradigm was employed except that along with estimating frequencies of various causes of death, volunteers also estimated the frequencies of some non-mortality events such as divorce and bankruptcy. Nonetheless, these non-mortality ratings were still significantly greater than control group estimates. These thematically irrelevant estimates, however, should not have been influenced as much as the estimates that concerned the same themes of
the mood inducing stories. Thus these results are not consistent with
the tenets of Accessibility Theory (Bower, 1981; Tversky & Kahneman,
1973). Instead, volunteers in this study may have been in a mild state
of fear after reading the death-related articles which they then used to
help estimate the frequencies of the other fearful events (Clore,
Schwarz, & Kirsch, 1983). In this view, frequency judgments of divorce
and bankruptcy may have been thematically irrelevant to the mortality
stories but they were not emotionally irrelevant. Despite the negative
outlook these results present for Accessibility Theory, a strict
attributional interpretation is still feasible since the increased
ratings could arise as volunteers falsely attribute their mood to
consideration of the negative events.

Information Theory

This attributional interpretation becomes suspect, however, in light
of the results of a fourth and final study by Johnson and Tversky
(1983). In this experiment, volunteers were successfully induced into a
positive mood and then asked to make the same risk estimates as
volunteers in the third study. The results showed significantly lower
estimated frequencies than controls, a decrease comparable in magnitude
to the increase in estimates found in the negative condition. At this
point, the strict attributional interpretation fails, as it seems
unlikely that volunteers in positive moods misattributed their mood to
the negative events. Johnson and Tversky concluded that people tend to
make judgments that are compatible with their current mood, even when
the subject matter is causally unrelated.
Another study by Clore, Schwarz, and Kirsch (1983) found further support of the pervasive effects of moods on thematically unrelated judgments. In this study, hypnotic volunteers engaged in either positive or negative vacation or blind date fantasies. Volunteers then read an ambiguous vacation story or an ambiguous story about a person. According to Accessibility Theory, volunteers in all four conditions should have had both a theme primed (blind date vs. vacation) and a mood primed (positive vs. negative). The results showed that emotional moods have a general influence on the interpretations of ambiguous passages that cannot be accounted for by the thematic relatedness between the cause of the mood and the object of interpretation. Clore et al. (1983) interpreted their results to support the notion that when volunteers are asked to make affectively relevant judgments, they consult their momentary feelings to help form the answer. According to this model, mood should influence judgment as long as the feelings are not dissociated from the object of judgment as a result of having previously been explained.

The purpose of the present study was to further investigate the role of affect in judgments and memory. To accomplish this goal, hypnotic volunteers were induced into positive and negative mood states using fantasies about an ambiguous vacation (Clore, Schwarz, & Kirsch, 1983). The effects of these induced states were then examined by having volunteers read short descriptions of positive, neutral, and negative characters.

The dependent measures consisted of: 1) asking the volunteers to rate the desirability (attraction) of each character on ten-point
scales; 2) having the volunteers rate the relevance of the twelve trait terms that form the basis of the descriptions, four per character, in describing each respective character; and 3) having each volunteer complete three recognition tests, one per character, that examined not only the accuracy of memory for sentences from the character descriptions, but attempted to assess whether the nature of the volunteers' recognitions might be biased by their mood. For this measure, two false answers were evaluatively more positive than the correct answer and two false answers were evaluatively more negative for each question. The results of these measures were also compared with those of positive and negative control groups who simply read the vacation fantasies prior to reading the character descriptions.

Predictions

At this point, predictions from the three theoretical views can be stated.

1. Accessibility Theory (Bower, 1981; Isen et al., 1978) suggests that the mood induction will function both to produce positive and negative affective states and to increase the availability of mood-related vacation memories. Since the subsequent character descriptions and measures are thematically unrelated to the vacation fantasy, there should be no effect of those primed cognitions on the ratings or recognition tests.

The induced moods, however, should have some effects but only on mood congruent measures. Volunteers in a positive mood should rate the
positive character as much more desirable and the neutral character as slightly more desirable than control group ratings. There should be no effect of the positive mood on the desirability of the negative character. The same pattern of results should occur for negative mood volunteers in that desirability of the negative character should be significantly decreased and the rating for the neutral character slightly decreased as compared to controls. Again, the negative mood state should have no effect on the incongruent positive character. Trait relevancy should also be affected in the same mood-congruency manner, with positive moods increasing only the relevancy of positive traits and negative moods increasing only the relevancy of negative traits.

This hypothesis also makes predictions for the recognition tests. Here, volunteers should have better recognition for sentences taken from mood congruent descriptions. For example, volunteers in a negative mood should be more accurate on the recognition test concerning the negative character than on the positive or neutral character tests.

2. Predictions of Attribution Theory (Johnson & Tversky, 1983; Kelley, 1973) explain any mood effects through a process of misattribution. In the present situation, a volunteer in a positive mood might incorrectly attribute that mood to reading the description of the positive stimulus person, thus giving rise to more positive evaluative judgments. The same interpretation holds for negative mood effects on judgments of the negative character. However, the attributional interpretation would not predict that a person in a negative mood would attribute that mood to reading about a positive
character or that a person in a positive mood would attribute that mood to reading about a negative character. The result is that both the Accessibility and Attributional Interpretations predict that the effect of mood on judgment depends on the congruence of the stimulus information to the mood. The predictions of both the Accessibility and Attribution theories for the judgments are depicted in figure 1.

Finally, no predictions can be made on the basis of Attribution Theory for any effects of moods on the recognition tests.

3. I now turn to the last set of predictions, based on the view of mood as information (Wyer & Carlston, 1979), a view supported by the experimental findings of Schwarz and Clore (1983), Johnson and Tversky (1983), and Clore, Schwarz, and Kirsch (1983).

In this view, the primary effects of the positive and negative vacation fantasies will be to induce positive and negative affective states in the volunteers. These states should have effects on the dependent measures despite the fact that the vacation induction is thematically unrelated to the description of the stimulus persons (Clore, Schwarz, & Kirsch, 1983). Further, the moods should have effects on the evaluative judgments for all three characters, despite the fact that a positive induction and a negative character are not mood-congruent (Clore, Schwarz, & Kirsch, 1983). Specifically, a positive mood should increase the desirability ratings for all three
characters and negative mood should decrease the desirability ratings for all three characters. From this view it is assumed that volunteers will base their general reaction to the stimulus persons on the evaluative information provided in the descriptions, and then fine tune the judgments on the basis of how they appear to feel about that information. Presumably, assessments of their moods pick up the feelings due to any preexisting affective states. This parallel effect of mood on judgment is in contrast to the predictions of Accessibility and Attributional Theories and is graphically depicted in Figure 2.

Thus, the Informational Functions Hypothesis predicts that the induced moods will have generalized effects on the dependent measures regardless of the thematic relatedness of the induction and the mood congruency of the dependent measures. No specific predictions are made for the recognitions tests but instead the attempt is to examine whether recognition errors will be biased as a function of the volunteers' moods.
Method

Subjects

Eighteen female and fourteen male volunteers were selected from a pool of undergraduates at the University of Illinois who had scored either 7, 8, or 9 on a nine-point version of the Harvard Group Test of Hypnotic Susceptibility. All volunteers were paid for their participation.

Guided Fantasies

All volunteers were randomly assigned to one of four conditions; positive mood, negative mood, positive control, and negative control. Experimental group volunteers were hypnotized using a variation on Hilgard's Relaxation Induction (Weitzenhoffer & Hilgard, 1962; see Appendix A). After the induction, they engaged in one of two guided fantasies, a positive or negative noninterpersonal fantasy concerning a vacation.

The positive vacation fantasy described a natural, unspoiled vacation that induced feelings of relaxation, energy, and pleasure. The negative vacation fantasy described a primitive and inconvenient vacation that caused feelings of boredom, exhaustion, and discomfort. As in the standard technique used by Bower, Monteiro, and Gilligan, (1978), volunteers were asked to attend to their emotions and were told to maintain these feelings in their waking state. The volunteers were then awakened and asked to read three short character descriptions.
Control group volunteers simply read either the positive or negative fantasy about a same sex character going on a vacation prior to reading the character descriptions (see Appendix B).

Character Descriptions

Three short descriptive passages, each about 150 words in length were read by each volunteer. The first passage, concerning Donald, consisted of eight evaluatively positive sentences that characterized Donald as honest, athletic, charitable, and a good student. The second passage, concerning John, consisted of eight evaluatively negative sentences that characterized John as irritable, messy, narrow-minded, and impolite. These polarized descriptions as adapted from Higgins, Rholes, and Jones (1977), were constructed to moderately exemplify their trait categories. At the same time the positive descriptions were clearly evaluatively positive, and the negative descriptions were clearly evaluatively negative. Fifteen undergraduates rated the positive descriptions as positive 85% of the time and rated the negative descriptions as negative 80% of the time (Higgins, Rholes, & Jones, 1977).

A third character description, concerning Mark, consisting of four evaluatively positive and four evaluatively negative sentences was constructed using personality-trait words rated for likableness as reported by Anderson (1968). Mark was described as being loyal, creative, stingy, and forgetful with the positive traits rating similarly in likableness to Donald's traits and the negative traits rating similarly in likableness to John's traits according to Anderson's
scale (1968). The description of Mark was constructed to represent a neutral character as compared to the descriptions of Donald and John (see Appendix C).

**Dependent Measures**

**Desirability ratings.** All volunteers were asked to judge how desirable they thought the three characters were on ten-point scales with 1 being not at all desirable and 10 being extremely desirable (see Appendix D).

**Trait relevance.** All volunteers were asked to judge the relevance of the four trait words used to construct the character descriptions for each of the three characters on five-point scales with 1 being not at all relevant and 5 being extremely relevant (see Appendix E).

**Recognition tests.** Three recognition tests, one for each character, were constructed. Each test consisted of six questions with five choices per question. One sentence per question was a correct sentence taken from the character descriptions. Two false sentences were evaluatively more positive than the correct sentence with one sentence being slightly more positive and the second sentence being much more positive. The two remaining sentences were evaluatively more negative than the correct sentence with one sentence being slightly more negative and the second sentence being much more negative. The recognition test questions were presented in a random order with the same order used for each test. Further, the question choices were also presented in a random starting order and then varied using a Latin square design. Again, the same order was used for each test (see Appendix F).
Mood assessment. To assess volunteers' moods, they were asked to rate 22 adjectives on 5-point scales in the format of the Differential Emotions Survey (Izard, 1977). A separate sample of 130 volunteers was used to analyze the structure of this measure. A principal components analysis was conducted on ratings of their resting moods. The analysis yielded three factors, which, when orthogonally rotated using the Varimax procedure, could be described as happiness, sadness, and anger. A fourth subscale consisting only of the adjective "fearful" was added to the analysis to help discriminate between groups. The items and their loadings are shown in table 1 (Clore, Schwarz, & Kirsch, 1983).

Scores for each volunteer were computed simply by adding their responses to the items that were relevant to each subscale (see Appendix G).

Hypnotic amnesia. During the hypnotic induction, a suggestion was given to the experimental group volunteers to forget the vacation fantasy, telling them that they "would simply have no wish to remember" the fantasy. Further, they were told that they would not remember the fantasy until they read the words "NOW YOU CAN REMEMBER EVERYTHING." Upon completion of the mood scale, these volunteers were asked to write down any further instructions they remembered about the hypnotic induction (see appendix H). Volunteers were considered amnesic if they remembered less than four specific statements about the
Experimental group volunteers were also asked to rate how hypnotized they felt they were on a ten-point scale with 1 being not at all hypnotized and 10 being extremely hypnotized.

**Design**

The experiment was a 4(positive induction vs. negative induction vs. positive control vs. negative control) by 3(positive character vs. neutral character vs. negative character) factorial design with induction condition as a between subjects factor and character stories as within subjects factors. The data of four female volunteers, three in the positive experimental group and one in the negative experimental group were eliminated from the study prior to data analysis. Two were eliminated after rating their own hypnotic depth as less than four on the ten-point scale. One was eliminated after reporting knowledge of several aspects of the study. And the fourth was eliminated after reporting finding the positive fantasy disturbing and uncomfortable. As a result, sixteen volunteers, four male and four male female, participated in each of the experimental groups and twelve volunteers, three male and three female, participated in each of the control groups. Finally, to control for order effects the character stories were varied using a latin square design. Likewise, the dependent measures were varied in a corresponding order.

**Procedure**

Volunteers were contacted by phone and asked to participate in a study examining the effects of hypnosis and fantasy on judgment and
memory. Volunteers came individually to the laboratory and were seated in a soundproof room.

For experimental group volunteers, the entire experiment including the hypnosis induction and the guided fantasy was presented on tape. After the volunteers were awakened they read the character descriptions, rated the desirability of the story characters, rated the relevancy of the personality traits, completed the recognition tests, and completed the mood measure. To eliminate possible aftereffects of the negative mood induction, all experimental group sessions ended with a reintroduction of the hypnotic trance during which volunteers relaxed and spent time appreciating some aspect of themselves that they valued. A post-experimental interview was then conducted at which time the volunteers were asked to corroborate their written reports of their memory for instructions from the hypnotic induction and guided fantasy. The volunteers were also questioned about any hypotheses they might have formulated concerning the purpose of the experiment. Following this interview, the volunteers were given both a verbal and a written debriefing (see Appendix I).

Control group volunteers were informed that this study was simply the first task in a larger experiment. Following completion of this study, those volunteers were hypnotized for purposes of another experiment.
Results

**Hypnotic Depth and Mood Scales**

A between subjects analysis of variance (ANOVA) was completed on the mean values of self-rated hypnotic depth for the positive experimental group mean of 6.88 and the negative experimental group mean of 6.75, revealing an equivalence of the experimental groups for this measure, $F(1,14) = .039, p > .10$. As a further measure of hypnotic depth, recall for specific instructions or descriptions given during the guided fantasy revealed that four volunteers in the positive group and three volunteers in the negative group could be considered amnesic.

Mood scores were computed for each volunteer simply by adding their responses to the items that were relevant to each of the four subscales and dividing by the number of items. Group mood subscale means are presented as a function of induction condition in Table 2.

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Insert Table 2 Here
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A between subjects analysis of variance of the group subscale means was performed. This analysis and a Newman-Keuls procedure revealed that negative condition volunteers were significantly more angry than volunteers in the three other conditions, $F(3,24) = 4.41, p < .02$. As expected, the same pattern was found for the sadness subscale, $F(3,24) = 9.89, p < .001$, with a Newman-Keuls procedure indicating that the negative group volunteers were significantly more sad than the
volunteers in the three other conditions. An analysis of the happiness subscale means was also significant, $F(3, 24) = 27.86$, $p < .001$, and a Newman-Keuls procedure revealed that positive group volunteers were significantly more happy than volunteers in both control groups who, in turn, were significantly more happy than negative condition volunteers. Finally, no differences were found between groups in reported levels of fear, $F(3, 24) = .83$, $p > .10$.

**Desirability Ratings**

Data were pooled for volunteers in the four conditions for desirability ratings and mean desirability ratings, combining ratings for the three characters, were computed. As expected, the positive mood group had the highest mean of 6.42, with the positive and negative control groups at 5.33 and 5.55 respectively, and the negative mood group at 4.58. This pattern of differences also occurred for mean desirability ratings for each character. A within subjects analysis of variance on these mean desirability ratings revealed a main effect of the four conditions, $F(3, 24) = 17.39$, $p < .001$, a main effect of the character stories, $F(2, 48) = 49.71$, $p < .001$, and no condition by story interaction, $F(6, 48) = .22$, $p > .10$. Figure 3 graphically depicts the mean desirability ratings for each character as a function of condition.

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Insert Figure 3 Here

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Despite the significant main effects, a subsequent Newman-Keuls analysis of the group desirability means failed to disclose the cause of the overall significance. This most likely occurred because of the small sample size in each condition and the fact that the control groups were not expected to differ. For descriptive purposes, a series of component 2 x 3 ANOVAs comparing all possible pairs of conditions was completed. This simple effects analysis revealed that the positive group mean was significantly greater than the two control group means which, in turn, were both significantly greater than the negative group mean (see Appendix J).

**Trait Relevance**

Trait relevance scores were computed by assigning the positive traits values greater than zero (+1 to +5) and the negative traits values less than zero (-1 to -5). Thus, if a volunteer felt the four traits per character were all extremely relevant in describing the characters, the summed ratings for Donald would equal +20, the summed ratings for John would equal -20, and the summed ratings for Mark would equal zero. These three character ratings were then averaged for each character as a function of condition. Further, one mean relevancy score was then computed from the three character means for each condition.

As predicted, the positive mood group had the highest mean of 1.29, with the positive and negative control groups at -0.27 and -0.05 respectively, and the negative mood group at -0.33. A within subjects analysis of variance on mean trait relevancy ratings for the three characters revealed a main effect of the four conditions, $F(3,24) =$
a main effect of the character stories, $F(2,48) = 1083.05$, $p < .001$, and the condition by stories interaction was not significant, $F(6,48) = .22$, $p > .10$.

A Newman-Keuls analysis of the group trait relevance means failed to disclose the cause of the overall significance. A simple effects analysis revealed that the positive group mean was significantly greater than the two control group and negative mood group means which were nonsignificantly different from each other (see Appendix J).

**Recognition tests**

The recognition tests were scored in two different manners for data analysis.

**Mean bias.** To examine whether volunteers tended to choose incorrect test answers as a function of mood, each question was scored using a five-point scale ranging from -2 to +2. Here, a correct answer was scored as a zero, an answer two degrees evaluatively more positive was scored with a +2, and an answer two degrees evaluatively more negative was scored with a -2. Mean scores for each recognition test were computed for each volunteer. Further, the data was pooled for each condition until one recognition bias score per condition resulted.

Overall, the bias tended to be in the negative direction as the positive mood group mean was -.08, the positive and negative control groups were -.27 and .22 respectively, and the negative mood group mean was -1.92. A within subjects analysis of variance on the mean recognition bias scores for the three characters revealed a main effect of the four conditions, $F(3,24) = 3.62$, $p < .03$, a main effect of
character stories, $F(2,48) = 13.58, p < .001$, and the condition by story interaction was not significant, $F(6,48) = 1.65, p < .15$. Figure 4 graphically illustrates the recognition bias means for each character as a function of condition.

A subsequent Newman-Keuls analysis of the group bias means was unable to disclose the cause of the overall significance. A simple effects analysis revealed that the negative group mean was significantly smaller than the positive mood group and negative control group means and was marginally smaller than the positive control group mean (see Appendix J).

**Mean errors.** The recognition tests were also simply scored for the number of errors made, by computing a mean error score for each volunteer and then for each condition. The negative mood group had the highest mean error score of 2.71, with the positive mood group in the middle at 2.04, and the positive and negative control groups at the lower end at 1.44 and 1.11 respectively. A within subjects analysis of variance on the mean error scores for the three characters' recognition tests revealed a main effect of the four conditions, $F(3,24) = 3.18, p < .05$, a main effect of character stories, $F(2,48) = 4.81, p < .02$, and the condition by story interaction was not significant, $F(6,48) = .79, p > .10$. Figure 5 graphically depicts the recognition error means for each character as a function of condition.
Again, a Newman-Keuls analysis of the group recognition error means was unable to disclose the reason for the overall significance. A simple effects analysis revealed that the two experimental group means were not different. Further, the negative group mean was significantly greater than the negative control group mean and marginally greater than the positive control group mean. A marginally significant difference also occurred between the positive group and the negative control group for this measure (see Appendix J).

Discussion

The results show that the vacation fantasies were successful at inducing positive and negative affective states. The power of the inductions was further supported by the fact that the positive group volunteers were significantly happier than the control group volunteers who reported generally positive resting levels of mood.

Hypnosis and Demand

One aspect of this study that is subject to criticism stems from the use of hypnosis as a mood induction technique. Bower (1981) reported that hypnosis mood suggestions appeared to influence behavioral and physiological indexes of mood. Thus, if the mood is real and not just a result of situational demand characteristics, it would have to be
possible for a person to be in a strong mood and yet not be led to have mood-related associations. Though a demand interpretation cannot be completely dismissed for the judgment measures in this study, it does not seem likely that volunteers would quickly connect a positive mood with increased ratings of desirability on unreferenced ten-point scales. Further, if a demand hypothesis explains the judgment data, then the results for trait relevance should be identical to those of desirability.

The validity of hypnosis for memory tests was supported in several experiments by Bower, Gilligan, and Monteiro (1981) which found no effect of recall mood on selective recall of happy versus sad events from a narrative read earlier when the volunteers were in a neutral mood. A demand hypothesis would have predicted a large selective effect for the mood-congruent events in such situations. In the present study, a demand hypothesis cannot explain why there were increased errors in the experimental groups or why there was a significant negativity bias for recognition by the negative mood group. Future experiments involving hypnosis induced mood states might employ an additional control group in which low hypnotizable volunteers are instructed to act as if they are hypnotized. This condition could then serve as a powerful means of testing demand effects provided the experimenter is "blind" to their sham hypnosis.

**Mood and Judgment**

As predicted, the moods induced with the vacation fantasies had effects on the subsequent judgments despite the thematic unrelatedness
of the fantasies to the character descriptions and dependent measures. Further, this generalized mood effect occurred whether or not the induced moods were congruent to the evaluative status of the characters' personality traits. This parallel effect of mood was powerfully supported by the desirability ratings as a volunteer's mood state seemed to function as a constant force that either elevated or decreased the ratings of desirability for the three characters.

This effect was less well defined for the judgments of trait relevance. The means for this measure, which could possibly have ranged from -24 to +24, were all within two points of zero, or perfect relevance of all the traits to the characters. Despite the fact that all volunteers generally found the traits very relevant in describing the characters, the generalized effect of mood was still demonstrated by the positive group. And though the negative group tended to be more negative than the controls, this difference was not significant. Thus it appears that this measure did not have the sensitivity needed to differentiate the effects of the negative mood state from the controls.

In relation to the three theories under examination, both Accessibility (Bower, 1981; Isen et al., 1978) and Attribution Theory (Johnson & Tversky, 1983; Kelley, 1973) are unable to fully explain these data. Condition by story interactions were crucial if the explanations of these theories for mood effects on judgment were to be supported. Specifically, the induced moods should have only affected the desirability ratings for mood-congruent characters and judgments of relevance for mood-congruent traits. Contrary to these predictions, the condition by story interactions did not approach significance for the
desirability ratings or the judgments of trait relevancy. Thus these data strongly support the Informational Functions Hypothesis (Schwarz & Clore, 1983; Wyer & Carlston, 1979) as it appears that mood states have effects on judgments regardless of the thematic and evaluative characteristics of the object of judgment. In short, people seem to use their mood as information to help them make their judgments.

Mood and Memory

Up to this point, the effects of mood on memory have generally been examined through recall tasks (Bower, 1981; Isen et al., 1978; Teasdale & Fogarty, 1979). These theorists have generally found that mood affects recall memory by increasing the availability of the mood-congruent information. Further, improved recall of mood-relevant information has been shown for mood induced before learning (Bower, 1981) as well as for mood induced before recall (Isen et al., 1978). The present study examined mood effects on recognition memory with mood induced prior to learning.

Analysis of recognition errors data showed that the experimental groups were not different from each other but did generally make more errors than the control groups. This could be a result of the induced mood states as well as possible interference caused by the volunteers' ongoing thoughts about the vacation fantasies. This may be a factor since only seven out of sixteen volunteers displayed amnesia for the fantasies. Decreased recognition memory for the experimental groups might also be a function of decreased concentration brought about by the relaxation of the hypnotic state.
When examining the recognition bias, it becomes clear that any or all of these explanations could explain the increased errors of the positive mood group. Volunteers in the positive mood group did make more errors than control volunteers but the evaluative direction of these errors was not different from that of the control volunteers. The increased errors of the negative mood volunteers were, however, significantly negatively biased as compared to the three other groups. As shown in Figure 3, this negativity bias did not occur for the positive character but was manifested in misrecognition for statements about the neutral character and especially for misrecognition of negative character statements. Thus it appears that as congruence of the characters' traits to the negative mood increased, recognition memory for sentences describing those characters decreased in an evaluatively negative direction. This result is in opposition to Accessibility Theory (Bower, 1981; Isen et al., 1978) which predicted that volunteers would have increased memory for mood-congruent items.

An analysis of this data in terms of the Informational Functions Hypothesis (Schwarz & Clore, 1983; Wyer & Carlston, 1979) reveals this theory is inadequate for explaining these results. The volunteers, when faced with a recognition task, might be unsure as to which item was correct but still might remember that John, for example, was generally negative. Further, as volunteers were in a negative mood, the Informational Hypothesis suggests that the influence of the mood on the memory that John was negative would be to bias these memories even more negatively. This explanation is incomplete, however, as it can only account for the occurrence of the negative bias for the negative and
neutral characters. The bias for the positive character is not
evaluatively negative as the Information Hypothesis would predict, but
instead tends to be positive. Finally, the Informational Hypothesis
would also expect the positive mood to bias the recognition errors
positively. The mean bias score for the positive group, however, was
slightly negative and did not differ from the control means.

The recognition bias data is best explained within the framework of
Attribution Theory (Johnson & Tversky, 1983; Kelley, 1973). Here the
use of an attributional interpretation suggests a possible dichotomy of
mood effects on judgment versus mood effects on memory. In this case,
volunteers in the negative mood group may have attributed their mood to
their memories about the story characters. This led them to choose test
answers that were compatible with their mood even though the answers
were incorrect. This theory would also expect that misattributions of
the negative mood would only occur for the negative and neutral
characters because the volunteers had no negative memories about the
positive person to which they could attribute their mood. This
explanation suggests that when the volunteers began working on the
recognition tests in a negative mood, they erroneously based their
answers on their preexisting feelings, reading them as reactions to
memories of the character descriptions.

The lack of a similar effect for the positive mood group may be an
example of the directive functions of affective states (Wyer & Carlston,
1979). Schwarz and Clore (1983) found that only volunteers in negative
moods would attribute their mood state to an outside source (irritating
room) when given the opportunity. It appears that negative moods may
direct a person to alleviate that state when possible. Thus positive mood volunteers in the present study would have no need to get out of their happy mood and therefore would show no systematic positive bias for recognition of the story statements.

One aspect of this research that many theorists have found important concerns the issue of encoding versus retrieval (Isen et al., 1978; Wyer & Carlston, 1979). Specifically, does mood have effects on information when the information is encoded or when the information is retrieved. The Informational Functions Hypothesis (Schwarz & Clore, 1983; Wyer & Carlston, 1979) bases its predictions on the assumption that the mood has its effects when the information is retrieved. This experiment, however, only examined the effect of mood when that mood was induced prior to introduction of the stimulus information. Thus another experimental condition in which volunteers read the character descriptions prior to the mood induction is required to examine the encoding-retrieval question.

Finally, this experiment found support for informational, directive, and attributional explanations for mood effects on judgment and recognition memory. These findings do not refute previous experimental results in which mood served to enhance recall of mood-congruent memories (Bower, 1981; Isen et al., 1978). Rather this line of experimentation serves to promote the view that moods have multidimensional effects on judgment and memory that cannot be completely explained within the framework of any one of these theories. Future research must work to unite the memory availability findings with the generalized effects of affective states so the complex effects of
moods and emotions can be better explained.
References


### Table 1

**Factor Structure of the Mood Questionnaire.**

(All loadings greater than .50 are listed)

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<td><strong>(Angry)</strong></td>
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Table 2
Mood subscale means for the experimental and control conditions.

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Figure Captions

**Figure 1.** Predictions of Accessibility and Attribution Theories for the effects of positive and negative mood states on judgments of desirability and trait relevance for the three characters.

**Figure 2.** Prediction for the effects of positive and negative mood states on judgments of desirability and trait relevance for the three characters.

**Figure 3.** Mean desirability ratings for each character as a function of condition.

**Figure 4.** Mean recognition bias scores for each character as a function of condition.

**Figure 5.** Mean recognition error scores for each character as a function of condition.
Figure 1

Mean Judgments

Stimulus Characters

Positive Condition

Negative Condition

John

Mark

Donald
Stimulus Characters

Figure 2

- Mean Judgments
- Positive Condition
- Controls
- Negative Condition

John  
Mark  
Donald
Figure 3

Stimulus Characters

Mean Desirability

+: +VE EXPERIMENTAL
+: -VE EXPERIMENTAL
X: +VE CONTROL
X: -VE CONTROL

John  -/+  Mark  Donald
Recognition Tests
Figure 4
Figure 5

Stimulus Characters

Mean recognition errors

John  -/+ Mark  +/ Donald

+VE Experimental
-VE Experimental
+VE Control
-VE Control
Appendix A
Taped Hypnosis Induction

Hello, my name is Mark. Because we want this part of the experiment to be the same for everyone I have taped recorded myself rather than talking to you in person today. First, let me thank you for coming to our lab and helping us out with our project. As you've already been told, we'll be here for most of an hour today. We will begin by spending about 10 or 15 minutes just getting relaxed and allowing ourselves to achieve a state of hypnosis. As you may know, the easiest way to do that seems to be to start by relaxing and slowly letting the concerns of the day drift away. While you are hypnotized you will have a guided fantasy which I shall suggest to you, and then I shall ask you to wake up and to do some things and to answer a few questions. The main purpose of our study here today is to find out a few simple things about fantasy and judgment, but we'll get to that later.

OK, if you are ready, let's begin by getting very comfortable in your chair, first thing you want to do is situate yourself very comfortably. You don't need anything in your lap or hands, just allow yourself to be able to situate yourself very easily and very comfortably in that chair. You don't have to move. You don't have to talk. Just begin by focusing your attention on your thumbnail. Sometimes it helps to focus all your attention on one place as a way of getting rid of extraneous thoughts about the room, other people, what will happen next and so forth. Just fixate on your thumbnail, stare at it and notice-how as you look at it longer and longer that everything wise may fade out a bit and perhaps become blurry. Just keep focusing your attention. You needn't
concentrate too hard on that particular focus, because you'll find you can develop a style of being, a way of processing, that is very effortless. And in not needing to move—not needing to talk—you can begin to relax—you can be able to begin to devote yourself to sheer comfort, and experiencing that comfort, you can begin to drop into a trance.

Now, you've had the experience of being able to experience a trance before. You can recognize that it's a very naturalistic experience—a very effortless one—and a very enjoyable one. You've also had previous experiences where you have been able to simply to let yourself effortlessly drift down into your own internal world, and allow yourself to become absorbed—allow yourself to become immersed—allow yourself to become fully involved in your own particular internal world.... Not needing to try to do anything—not needing to effortfully follow any particular train of thought—just allowing yourself to feel very comfortable, to drift down easily, more and more—because with each breath that you take you can be able to develop, more and more, that feeling of comfort—that feeling of internal absorption—that feeling of simply allowing whatever is, to be—recognizing that that which is can allow you to develop a trance state.

And everybody has a different style of developing a trance state. Some people begin with physical relaxation—others begin with mental relaxation—still others start with emotional relaxation. For example, you can be able to identify any sources of tension in your body, whether it be in your toes, your feet, your ankles, or whether it be in your legs or thighs—just relax—your pelvis, your stomach—(sigh)—your
chest, your shoulders, your arms. You can be able, bit by bit, slowly but yet ever so gradually, to let any tension, any unnecessary tightness, slowly seep away....in your head, your face, your forehead, your neck. You can be able to feel with each breath that you take--feel the comfort --feel the relaxation--that's right......So you can let it spread throughout your body; and your mental activities can also be relaxed--- letting images come and go as they will, letting thoughts meander in and drift out,....in and out...letting yourself be totally at eesaaaaasssseee-- just devoting yourself to that internal comfort of full absorption in that internal world, of your very own.

You can feel it. You can feel it developing--bit by bit--slowly, that very pleasant sensation begins to come over you, and you can feel it--you are going into trance,...and as you go more and more into that trance--you can still hear my voice and be with my voice--you needn't concentrate on the exact words--because you'll find that you can respond effortlessly. So just let go--- that's good--- take all the time in the world, in the next five minutes to develop that state even more...(pause)... not needing to attend to anything, except the need to attend to ones own internal needs--and as you allow yourself to drift in trance, you can discover that you are comfortable, all alone in the middle of nowhere.

I'm going to count, from one to twenty. And with each number that I count you will find that you can go deeper and deeper into trance. I'll begin, one--.....two-- three--ever more relaxed, fully and completely relaxed...four...five-- six--deeper, deeper....seven....eight....nine--down, down...ten...ever further down
into a pleasant—eleven—sleeplike state—twelve—hearing my
voice—thirteen—but going down, down...fourteen...fifteen—ever
deeper..

.......relax.....floating....sixteen—seventeen....eighteen....you're
deepl asleep now...nineteen......and twenty.

You can discover that you are very comfortable, exploring yourself
all alone in the Middle of Nowhere. Your unconscious does know where
nowhere is; and you can comfortably drift into nowhere—not needing to
be attached to any particular way of being,.....or thinking ....or
feeling --not needing to be any specific way--but just allowing yourself
to feel comfort and that diffuse pleasantness of drifting deeper into
trance-- and you can be all alone with the voice--my voice--you can hear
my voice and be with my voice--and you can be able to know that wherever
you go you can do so securely. Because the Middle of Nowhere is a very
safe place, and a very enjoyable one. From the Middle of Nowhere, you
can be able to do a variety of things. For example, what I'd like you
to do now is to have a little fantasy.

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Insert Guided Fantasy Here

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In a moment, I shall count from 5 to 1, and at 1, you will open your
eyes. You will find that you can do that without disturbing your mood.
you will be able to maintain your mood and complete some brief tasks.
All the while, you will be able to continue to feel as you do now. (like
you are relaxed and happy, feeling healthy, energetic and refreshed ),
(like you have nothing to do, you're bored, disappointed, and unhappy, feeling annoyed & discouraged).

As you complete the tasks...YOU WILL HAVE again these feelings. but you will not recall why you feel this way, or that I asked you to feel these things. You will not recall the fantasy itself, it will be too much effort to recall and you will simply have no wish to do so, until you read the words "Now You Can Remember Everything." When you read these words, you will recall everything, but not until then.

And so just allow yourself to know - that in a moment- I'll count from 5 to 1 - and with each number I count, your eyes will feel like opening a little more - and when I reach the number 1, they will be all the way open - and then I am going to ask you to complete some tasks and you will be able to do so. OK? I'll begin counting, 5 that's right, 4 a little more, 3 that's good, 2, and 1, eyes open now - okay. Now, in a folder on the desk in front of you are instructions for the first task. Please open the folder and go ahead and begin.

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Stories and Measures
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Allow your eyes to close once again. close your eyes once again. Allow yourself to shift easily and comfortably once again very comfortably back down into the middle of nowhere, a very secure place, a very comfortable place, and to be able to do so and to know that it is alright to be able to drift down easily. Let the previous experience
dissipate, drift away, you are left with nothing but the feeling of comfort and relaxation.

Allow yourself to drift easily, content to have your behavior absorbed into the trance state, recognizing, that the trance is a learning experience and you can learn a lot by just letting your unconscious guide you and take care of you. Let it share with you a deeper part of who you are. Let yourself become independent of the feelings that you were feeling, let yourself drift away. What is important now is that you let yourself feel relaxation and let yourself discover how enjoyable it can be to wander in your own unconsciousness. Safely and securely, totally absorbed in that inner world, so that you can find out a bit more about who you are. Take a moment now to appreciate some aspect of yourself, some ability or characteristic that you rather like, something characteristic of you that is good. Take a moment now to appreciate that aspect....

In a moment I shall count from 20 to 1. As I do so you shall gradually awaken, opening your eyes at the count of 5 and becoming fully awake at the count of 1. When you hear the number 1, you will no longer be hypnotized. You will feel relaxed, you will feel refreshed, like you had a pleasant nap. You will have no aftereffects of your brief experience either now or later. You will leave the feelings you felt behind. OK are you ready?...remember, eyes open at 5 and fully awake and alert and out of the trance at the count of 1.

20..19..18..17..16..15..14..13..12..11..10-half-way..9..8..7..6..5-eyes open, eyes wide open..4..3..2.. and 1-fully awake....HI.. you should be fully awake, alert, and rested.
A Pleasant Vacation

Someone was about to go on a vacation. He didn't know much about the place he was going to and wondered what it might be like. The place might actually be very pleasant and he was sure he would like it. The more he thought about it, the more excited he got. As he thought about it, his mood got better and better. He already felt it. He thought about walking on a beach, hearing the ocean, feeling the sand under his feet, seeing the clear blue skies, feeling the warmth of the sun on his skin. He imagined a breeze gently blowing his hair. No studies, no work to do. He had the feeling of complete freedom from the responsibilities of everyday life. He felt the relaxation and peace that comes when one is totally, pleasantly relaxed. He felt relaxation and contentment. He saw himself sitting in a meadow, amidst a lot of beautiful flowers. It was a nice, warm, and pleasant day. The sun was shining. He could open up to the beauty of the place. He watched birds gliding thru the air above him, it was a peaceful place. How much he relaxed and enjoyed it. Everything was so beautiful. He liked the place. It was a nice and rustic place and he felt happy. He enjoyed the natural atmosphere out there. Life was not full of noise, pollution. It was natural and simple. He felt how good that was for him. He had the tingling, clean feeling of being healthy and full of vitality; energetic and invigorated. He ate fresh fruit right from fruit trees that tasted sweeter and juicier than any he had very tasted before. He felt the refreshing goodness of being in a natural and unspoiled place? He felt refreshed, like he jumped into a cool pool on a hot day. He felt the excitement and expectation of letting himself get involved in anticipating a new and different experience that made him happy. He felt physically relaxed, excited, happy, and invigorated.
A Pleasant Vacation

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An Unpleasant Vacation

A person was about to go on a vacation. He didn't know much about the place he was going to and he wondered what it might be like. All kinds of thoughts came to mind. The place might actually be kind of unpleasant and he was not sure if he would like it at all. The more he thought about it, the more doubts came to his mind. As he thought about it, his mood got continually worse. He already felt how disappointing it would be. He saw himself sitting in some remote place with nothing to do. Hours ticking away, tedious, time standing still. He felt the feeling of tedium, the irritation of having nothing to do. He saw himself sitting in a field with the sun shining. It was very hot. He thought about sweating all over. He thought about a field that looked nice, but the ground was lumpy, the weeds were scratchy and there were ants. It was dirty, he couldn't breathe well, and there might be insects. It might be a dreadful place. It bothered him. He felt tired and discouraged and decided he wouldn't want that sticky, itchy feeling of sweat. What a vacation. Considering these difficulties, he thought the vacation might be dreadful. He was disappointed and annoyed. He was unhappy being stuck with nothing to do, with time on his hands, and with nothing important to give him life direction. He considered how primitive everything in this vacation would be. He felt unhappy and disappointed. He imagined frustration and annoyance, like when the everyday things he was used to weren't available or didn't work; where the simplest daily tasks were time-consuming and frustrating. He felt unhappiness, tedium, tiredness, feelings of being disappointed and discouraged.
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Appendix C
Donald frequently says exactly what he thinks when asked for his opinion, but he usually tries to avoid expressing opinions that would hurt someone's feelings. Donald was quite athletically inclined during high school. He played baseball, basketball, and tennis, and lettered in baseball and basketball during his last two years. Though not at the top of his class, Donald does well in school. During his first two years his grade point average was quite high. Donald donates to charity whenever he has money to spare. In the past few months, for example, he has contributed three dollars to the March of Dimes, three dollars to UNICEF, and two dollars to a community action organization in his home town.
Mark is well known as a person who stands by his friends. Recently, he defended a friend of his at a party where others were criticizing him, even though his friend was not at the party. Mark guards his money carefully. When friends ask to borrow small change he often suggests they ask someone else. In restaurants, Mark usually leaves without tipping the waitress.

Mark often enjoys doing artistic things. He writes imaginative short stories and is a good photographer for the school newspaper. Mark usually forgets appointments that he has scheduled. He often complains that he can't find his car keys and his glasses.
John occasionally gets angry for little reasons. Sometimes he will become annoyed if he can't finish something he's working on quickly enough. John rarely cleans his room. He spends little time dressing each morning and is not particularly concerned about his appearance. In conversations, John often interrupts when others are talking. John will also occasionally push into lines instead of waiting his turn. John's interests and ideas have not changed much during his years in college. His interests are still confined to a small set of activities, and it is difficult to get him interested in anything new.
Please take into account all the information contained in the paragraph about Donald and place a check in the appropriate spot to indicate how desirable you consider Donald to be.
Release tako into account all the information contained in the paragraph about Mark and place a check in the appropriate box to indicate how desirable you consider Mark to be.
"Please take into account all the information contained in the paragraph about John and place a check in the appropriate spot to indicate how desirable you consider John to be.

- extremely undesirable
- slightly undesirable
- desirable
- extremely desirable

- slightly desirable
- undesirable
Please indicate how relevant the following words are for describing what Donald seemed like to you by circling the proper number.

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Please indicate how relevant the following words are for describing what Mark seemed like to you by circling the proper number.

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</tbody>
</table>
Appendix F
Instructions: For each number, please check which of the sentences appeared in the story you read. Check only one alternative for each number.

1. a. Donald sometimes says exactly what he thinks when stating his ideas.
   b. Donald frequently says exactly what he thinks when asked for his opinion.
   c. Donald rarely says exactly what he thinks when his opinion is called for.
   d. Donald always says exactly what he thinks when others ask him.
   e. Donald almost always says exactly what he thinks when expressing his views.

2. a. During his first two years his grade point average was quite high.
   b. As a freshman and sophomore his grade point average was not very high.
   c. Until his junior year his grade point average was perfect.
   d. During his first two years in college his grade point average was extremely high.
   e. Before his third year his grade point average was moderately high.

3. a. Donald rarely donates to charity when he has extra cash to spare.
   b. Donald always donates to charity as soon as he gets some money.
   c. Donald frequently donates to charity when he has the money.
   d. Donald sometimes donates to charity when he has spare funds.
   e. Donald donates to charity whenever he has money to spare.

4. a. He always tries to avoid expressing opinions that might offend others.
   b. He frequently tries to avoid saying things that might upset others.
   c. He sometimes tries to avoid stating views that would hurt someone's feelings.
   d. He usually tries to avoid expressing opinions that would hurt someone's feelings.
   e. He rarely tries to avoid expressing opinions that would bother others.

5. a. Though not at the top of his class, Donald does very well in his studies.
   b. Though not at the top of his class, Donald does moderately well in most topics.
   c. Though not at the top of his class, Donald does well in school.
   d. Though Donald isn't at the top of his class, he occasionally does well in his studies.
   e. Donald is at the top of his class, he does very well in college.

6. a. Donald was not athletically inclined during high school or college.
   b. Donald was extremely interested in athletics during high school.
   c. Donald was very athletically inclined before college.
   d. Donald was somewhat athletically inclined prior to entering college.
   e. Donald was quite athletically inclined during high school.
Instructions: For each number, please check which of the sentences appeared in the story you read. Check only one alternative for each number.

1. a. Mark is sometimes known as a person who comes to the aid of his friends.
   b. Mark is well known as a person who stands by his friends.
   c. Mark is rarely known as a person who stands by his friends when they need him.
   d. Mark is extremely well known as a person who stands by his friends when they are in trouble.
   e. Mark is frequently known as a person who helps out his friends.

2. a. He often complains that he can't find his car keys and his glasses.
   b. He rarely complains that he has misplaced his car keys and his glasses.
   c. He always complains that he has misplaced his car keys, his glasses, and his calculator.
   d. He frequently complains that he can't find his key chain and his reading glasses.
   e. He sometimes complains that he can't find his keys and his glasses case.

3. a. In restaurants, Mark rarely leaves without putting a tip on the table for the waitress.
   b. In restaurants, Mark always goes home without leaving the customary tip.
   c. In restaurants, Mark almost always leaves without giving the waitress a tip.
   d. In restaurants, Mark occasionally goes home without tipping the waitress.
   e. In restaurants, Mark usually leaves without tipping the waitress.

4. a. Mark always enjoys doing artistic hobbies.
   b. Mark frequently enjoys being artistic.
   c. Mark sometimes enjoys artistic pastimes.
   d. Mark often enjoys doing artistic things.
   e. Mark rarely enjoys doing artistic activities.

5. a. Mark almost always forgets appointments that he has arranged with professors.
   b. Mark occasionally forgets appointments that he has scheduled with professors.
   c. Mark usually forgets appointments that he has scheduled.
   d. Mark rarely forgets appointments that he has arranged with faculty.
   e. Mark always forgets appointments that he has set up.

6. a. When friends ask to borrow small change he rarely tells them to ask someone else.
   b. When friends ask to borrow small change he always tells them to ask another person.
   c. When friends ask to borrow small change he frequently suggests they find another source.
   d. When friends ask to borrow small change he sometimes suggests that he can't help them.
   e. When friends ask to borrow small change he often suggests they ask someone else.
RECOGNITION TEST - JOHN

Instructions: For each number, please check which of the sentences appeared in the story you read. Check only one alternative for each number.

1. ___ a. John rarely gets angry when things don't go as he planned.  
   ___ b. John occasionally gets angry for little reasons.  
   ___ c. John never gets angry if little things don't go right.  
   ___ d. John always gets angry about small problems.  
   ___ e. John frequently gets angry over minor mishaps.

2. ___ a. John will also occasionally push into lines instead of waiting his turn.  
   ___ b. John will also never push into lines when he should be waiting for his turn.  
   ___ c. John will always push into lines when he wants something.  
   ___ d. John will also frequently push into lines when awaiting his turn.  
   ___ e. John will rarely ever push into lines where others have been waiting.

3. ___ a. In conversations, John rarely interrupts while other people are speaking.  
   ___ b. In conversations, John frequently interrupts others to explain his ideas.  
   ___ c. In conversations, John always interrupts and isn't listening when others are talking.  
   ___ d. In conversations, John occasionally interrupts and breaks the flow of talking.  
   ___ e. In conversations, John often interrupts when others are talking.

4. ___ a. Sometimes he becomes extremely annoyed when he can't get to work or school quickly enough.  
   ___ b. Sometimes he will become very annoyed when he doesn't finish his work on time.  
   ___ c. Sometimes he will become somewhat annoyed if he can't complete a homework set on time.  
   ___ d. Sometimes he will become annoyed if he can't finish something he's working on quickly enough.  
   ___ e. Sometimes he will become slightly annoyed if he spends too much time on his homework.

5. ___ a. John's interests and ideas have changed somewhat since he has been at college.  
   ___ b. John's interests and ideas have changed very little since his high school years.  
   ___ c. John's interests and ideas have not changed much during his years in college.  
   ___ d. John's interests and ideas have not changed at all since his high school graduation.  
   ___ e. John's interests and ideas have changed a great deal since he went away to college.

6. ___ a. He is completely unconcerned with how he looks.  
   ___ b. He is generally concerned with his looks and clothing.  
   ___ c. He is not excessively concerned with how he dresses.  
   ___ d. He is seldom concerned about combing his hair and wearing clean clothing.  
   ___ e. He is not particularly concerned about his appearance.
## Momentary Self-description Scale

This scale consists of words or phrases to describe yourself. Please describe how you are feeling at the present time.

Record your answers on this sheet by circling the appropriate number. Presented below is the scale for indicating the degree to which each word describes the way you feel.

|          | 1 | 2 | 3 | 4 | 5 |          | 1 | 2 | 3 | 4 | 5 |
|----------|---|---|---|---|---|----------|---|---|---|---|---|----------|---|---|---|---|---|
|          | very slightly or not at all relevant |  |  |  |  |            | very strongly |  |  |  |  |  |
| Remember, you are requested to make your responses on the basis of the way you feel at this time. Work at a good pace. It is not necessary to ponder; the first answer you decide on for a given word is probably the most valid. |  |  |  |  |  |

1. enraged 1 2 3 4 5  12. displeased 1 2 3 4 5
2. joyful 1 2 3 4 5  13. contented 1 2 3 4 5
3. elated 1 2 3 4 5  14. rejected 1 2 3 4 5
4. happy 1 2 3 4 5  15. downhearted 1 2 3 4 5
5. fearful 1 2 3 4 5  16. delighted 1 2 3 4 5
6. angry 1 2 3 4 5  17. discontented 1 2 3 4 5
7. sad 1 2 3 4 5  18. proud 1 2 3 4 5
8. pleased 1 2 3 4 5  19. sorrowful 1 2 3 4 5
9. disgusted 1 2 3 4 5  20. blue 1 2 3 4 5
10. depressed 1 2 3 4 5  21. fine 1 2 3 4 5
11. mad 1 2 3 4 5  22. gloomy 1 2 3 4 5
Please take about five minutes to write down what Mark asked you to do during the hypnotic induction. Be brief and try to remember specific instructions.
NOW YOU CAN REMEMBER EVERYTHING

Please take a few more minutes to write down anything further you can remember about what Mark asked you to do during the hypnotic induction.
Explanation

The experiment you were just in was intended to explore the relationship between emotional mood and cognitive processes. In particular, we were interested in whether or not engaging in a positive or negative hypnotic fantasy would put you in a good or bad mood. Further, we were then interested to see how this hypnotically induced mood would affect your judgments of liking for the three story characters, and your memory for the story statements.

The point of this research is to study how our moods might influence our judgments and memories about things we experience in everyday life. You may have noticed that bad moods are hard to get out of and seem to have a strong effect on your decisions and ideas. Our hypothesis is that people use their moods and feelings as information when making decisions and judgments. For example, we expect that if a person in a bad mood is asked what they think of someone they just met, they would probably rate the stranger as less desirable than when in a positive mood. Our purpose, then, is to try to understand how a person's mood might be affecting such judgments.

We employed hypnotic volunteers, such as you, in this study because of the ability to more reliably induce a mood. Further, research indicates that strong hypnotic ability is related to the ability to engage in fantasy. Thus our guided vacation fantasy would have a more powerful effect upon a person with good hypnotic abilities.

We appreciate your help with our work and we sincerely hope that the mood you experienced did not cause you any undue displeasure. If you would like to know more you might read: a recent article by Gordon H. Bower appearing in the February 1981 American Psychologist entitled "Mood and Memory". If you have further questions feel free to ask Mark Robbins your experimenter, or Dr. Clore (333-6739).
### Desirability Ratings

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### Recognition Bias

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### Recognition Errors

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(All analysis were 2x3 within subjects ANOVAs.)