Mood Management Across Affective States: The Hedonic Contingency Hypothesis

Duane T. Wegener and Richard E. Petty

Mood management in positive and negative moods is relevant to a variety of social phenomena and has been especially important in the helping literature. Theorists have predicted that sad people strategically engage in mood management activities more than happy people. However, application of learning principles across affective states led the authors to hypothesize that hedonic rewards are more contingent on scrutiny of hedonic consequences in happy than sad states. Thus, happy people should scrutinize the hedonic consequences of potential behaviors more than sad people. A selective exposure paradigm was used to test this hedonic contingency hypothesis. People in whom happy, sad, or neutral states were induced were asked to choose activities in which to engage. In 3 experiments, happy people based their choices on the affective consequences of those activities more than sad or neutral individuals. Implications for interpreting past work are discussed.

Affective states influence a variety of behavioral phenomena. For example, positive moods increase the accessibility of positive material in memory (Bower, Monteiro, & Gilligan, 1978; Isen, Shalker, Clark, & Karp, 1978), make positive events and behaviors seem more likely than negative events or behaviors (Erber, 1991; Mayer, Gaschke, Braverman, & Evans, 1992; Wegener, Petty, & Klein, 1994), and make people more optimistic (Forgas & Moylan, 1987) than do negative moods. In addition to these effects that can occur through the operation of accessibility or memory processes, mood states can also give rise to strategic attempts to manage affective experience. That is, "people in a positive mood might think about behaviors that have produced positive feelings in the past and might be more likely to perform those behaviors in order to maintain their moods. People in negative feeling states . . . may think of and perform behaviors associated with positive feelings specifically to relieve their negative feeling state" (Clark & Isen, 1982, p. 94).

In turn, strategic management of mood states can have an impact on a wide variety of behavioral phenomena. For example, efforts to manage mood might influence which types of entertainment people choose (Zillmann, 1988), which past behaviors people choose to recall (Parrott & Sabini, 1990), which thoughts people wish to suppress (Wenzlaff, Wegner, & Roper, 1988), how much careful thought people give to persuasive messages (Petty, Gleich, & Baker, 1991; Smith & Shaffer, 1991; Worth & Mackie, 1987), and how much effort people put into decision-making activities (Isen & Means, 1983). In addition, a large body of literature suggests that mood-management concerns might play a crucial role in mood effects on helping, although the specifics of this role have been hotly debated (see Cialdini & Fultz, 1990; N. Miller & Carlson, 1990; Schaller & Cialdini, 1990). Because many helping situations offer positive, rewarding experiences, helping can have a favorable impact on one's mood. Thus, people in positive moods might help be-

Duane T. Wegener and Richard E. Petty, Department of Psychology, Ohio State University.

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Correspondence concerning this article should be addressed to Richard E. Petty, Department of Psychology, 1885 Neil Avenue, Ohio State University, Columbus, Ohio 43210-1222. Electronic mail may be sent to petty.1@osu.edu.

1 Analyses of mood-management motives in the helping literature depend on the assumption that helping is generally a rewarding, mood-elevating experience. The rewarding, self-reinforcing qualities of helping have been documented by Weiss and his colleagues (Weiss, Boyer, Lombardo, & Stich, 1973; Weiss, Buchanan, Alstatt, & Lombardo, 1971). In addition, direct evidence that helping elevates moods has been shown for subjects varying in their initial mood states (Millar, Millar, & Tesser, 1988).
cause they want to stay in a good mood (Isen & Simmonds, 1978), whereas people in negative moods might help in order to escape or relieve their negative state (Schaller & Cialdini, 1990).

A Hedonic Contingency Analysis of Mood Management

How might people develop the use of strategies for managing affective experience? That is, how would people learn to perform mood-managing behaviors rather than other available actions? One potentially powerful outcome that would reward or punish people for their choices of behavior is the effect of those behaviors on their moods. For instance, behaviors that result in more positive or less negative feelings are rewarded, and behaviors that result in less positive or more negative feelings are punished. If one views rewards and punishments in this way, one might conclude that mood-management strategies should be more prevalent in positive than in negative moods. The reason for this lies in a factor that has not been considered previously in theorizing about the likely use of mood-management strategies in positive versus negative moods—the hedonic relationship between the current affective state and the distribution of feelings resulting from participation in action alternatives.

Consider a person in a very sad mood. For this person, the range of available activities would be almost entirely more positive (or less negative) than the person’s present mood. Because of this, engagement in almost any activity would tend to make a sad person feel better (and thus, would be rewarded). Although the person would certainly tend to feel better after making a careful decision regarding the hedonic qualities of tasks that may be chosen, the person would also feel better by engaging in almost any available task with little consideration of hedonic consequences. Because hedonic rewards are relatively likely to occur regardless of whether sad people consider the hedonic consequences of possible actions, the pattern of reinforcement would be relatively noncontingent on the use of active mood-management strategies. Contingency of reinforcement is a crucial factor in operant learning of behavior strategies, however (e.g., Hammond, 1980; Rachlin, 1976). Because hedonic rewards are not very contingent on careful consideration of the consequences of behavior when in a negative state, use of active mood-management strategies would be relatively unlikely.

In contrast, a person in a very happy mood has a more limited set of behavior alternatives that will lead to hedonic rewards. In fact, most available activities would make the person feel worse (and thus, would be punished). Therefore, in positive states, one must choose carefully in order to reap hedonic rewards. If no consideration of the hedonic consequences of possible behavior takes place, engagement in most activities will strip the person of the happy mood. Because of this, hedonic rewards would be highly contingent on scrutinizing the hedonic consequences of one’s actions. This should encourage scrutiny of the likely affective consequences of one’s behavior when in a happy mood (for similar notions regarding positive moods, see Carlson, Charlin, & Miller, 1988, p. 224).

Thus, one might consider current mood as a discriminative stimulus that signals what kind of reinforcement contingencies are operating (cf. L. Miller, 1975; Norborg, Osborne, & Fanting, 1983). When current mood is positive, scrutinizing the hedonic consequences of behaviors is rewarded and ignoring the hedonic consequences of possible actions is punished; when current mood is negative, however, both scrutinizing and ignoring hedonic consequences are typically rewarded. To the extent that this is the case, scrutiny of the hedonic consequences of potential future activities should become more usual, more practiced, and more likely in positive than in negative moods. We refer to this as the hedonic contingency hypothesis.

How would neutral moods relate to mood management? There are at least two ways in which one might conceptualize the information that neutral moods carry about reinforcement contingencies. On the basis of the relationship of neutral mood to the distribution of action alternatives alone, one might conclude that the contingency of reinforcement in neutral moods falls between that of positive and negative states. This would lead to a prediction that sad people would use mood-management strategies less than people in neutral moods. Alternatively, one might consider the value of mood as a discriminative stimulus as dependent on the mood differing from normal states. That is, moods that differ from neutral might be more salient and thus more informative as signals of reinforcement contingencies. Because mood management is still reinforcing for sad people (but not as contingently as for happy people), this view might lead to the prediction that sad people would manage mood more than neutral people (but less than happy people). Of course, if both effects were operating (e.g., because some people are more sensitive to differences in mood) then there might be no differences present in the use of mood-management strategies by neutral or sad people. In any case, the hedonic contingency hypothesis makes the clear prediction that happy people will be more attentive to the hedonic consequences of their actions than sad or neutral people. Sad people might be more attentive than, less attentive than, or equally attentive as neutral people.

Empirical Support for the Hedonic Contingency Hypothesis

Although not guided by the hedonic contingency hypothesis, a number of researchers who have examined happy and sad states separately have found results consistent with the hedonic contingency idea. For example, empirical studies of mood and helping have found that happy people help more than people in neutral states when the helping task is uplifting, but help less than people in neutral states when the helping task is depressing (e.g., Forest, Clark, Mills, & Isen, 1979; Isen & Simmonds, 1978). This suggests that people in positive moods are responding to the hedonic consequences of the available activities. Happy people also tend to seek potential gains when risk of loss

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2 The salience of affective experience (and the salience of mood-management goals) might be influenced by a number of factors. For example, some people might be more likely to pay attention to how they feel (Giuliano & Swinkels, 1992) and might also pay more attention to opportunities to manage mood (Catanzaro & Mearns, 1990). In addition, some situational factors (such as having a salient object or event associated with the onset of the feeling state) might make affective experience (and motives to manage mood) especially salient.
is low but tend to avoid potential loss when risk of loss is high to a greater extent than people in neutral moods (see Arkes, Herrn, & Isen, 1987; Isen & Geva, 1987; Isen & Patrick, 1983).

Additional support for the hedonic contingency hypothesis comes from recent meta-analyses of the mood and helping literature carried out by N. Miller, Carlson, and colleagues. For instance, Carlson, Charlin, and Miller (1988) calculated partial correlations between the rated affective consequences of helping tasks and the degree to which positive mood increased helping over neutral mood (i.e., controlling for alternative forces such as focus of attention). Carlson et al. found that as the pleasantness of the helping task increased, the facilitative effects of positive mood on helping also increased relative to neutral mood. Consistent with the hedonic contingency hypothesis, additional meta-analyses have failed to support mood management as an explanation for increased helping in sad moods. Carlson and Miller (1987) and N. Miller and Carlson (1990) found no significant partial correlations between amount of sadness induced or hedonic positivity of the helping task and the increase in helping in sad versus neutral mood across different codings for hedonic qualities of the helping task and across specific circumstances necessary for appropriate tests of mood management in negative moods (cf. Cialdini & Fultz, 1990). Thus, results of these meta-analyses suggest that if one could design empirical tests that control for or eliminate variables extraneous to the use of mood-management strategies, one would find evidence for the hedonic contingency hypothesis.

Studies that compare positive and negative states also tend to support the hedonic contingency hypothesis. For example, studies have shown that happy people self-gratify to a greater extent than sad people (e.g., Masters, 1972; Mischel, Coates, & Raskoff, 1968; Underwood, Moore, & Rosenhan, 1973), although some conditions can be created in which happy and sad people self-gratify equally (Masters, 1972; Rosenhan, Underwood, & Moore, 1974). This occurs even though the self-gratification of sad people might be increased by the fact that subjects in these conditions could feel that the experimenter owes them for completing a distasteful task at the experimenter's request (e.g., if sadness is induced with failure feedback given by the experimenter or by asking the subject to describe an unpleasant personal experience to the experimenter). Happy people also seek out positive information about the self to a greater extent than neutral or sad people (Mischel, Ebbesen, & Zeiss, 1973, 1976). Thus, the hedonic contingency hypothesis is supported across a variety of paradigms and might be capable of organizing the literature on the role of mood management in mood and helping.

Alternative Perspectives

Some researchers have put forth theoretical positions that predict mood management exclusively in negative moods. For example, Cialdini and his colleagues have developed the negative state relief (NSR) model of mood and helping (Cialdini, Baumann, & Kenrick, 1981; Cialdini, Darby, & Vincent, 1973). According to this framework, a bad mood (generally sadness or depression) increases helping because helping reduces the helper's bad feelings (as long as the task is not so costly or distasteful that it prevents mood enhancement; Cialdini & Fultz, 1990). The NSR imparts particular importance to the process of learning that helping can be a rewarding experience. Thus, according to the NSR framework, people in sad moods are hedonically rewarded for choosing to engage in activities that relieve their sadness. This makes helping and other pleasant tasks more likely to be chosen in subsequent situations when people are sad.

As noted by NSR researchers, pleasant tasks should be more rewarding than unpleasant tasks for people in happy as well as sad moods (Manucia, Baumann, & Cialdini, 1984). However, proponents of the NSR framework do not believe that happy moods foster scrutiny of the hedonic consequences of action choices. Instead, happy moods are said to foster greater liking of others (Clere, 1975), increased optimism that good things are likely to occur (Masters & Furman, 1976), a feeling of emotional advantage (Rosenhan, Salovey, & Hargis, 1981), and increased memory of past positive helping experiences (Isen et al., 1978)—any of which could lead to increased helping by happy people, even if positive-mood helping is not guided by considerations of the affective consequences of helping (see Manucia et al., 1984, for a discussion). Thus, NSR proponents regard increases in helping by happy people as a concomitant (i.e., a side effect) of the happy state. As stated by Schaller and Cialdini (1990):

The helping responses offered by saddened persons will be dependent upon consideration of factors that affect the hedonic consequences of helping. The helping responses offered by elated persons will be less dependent upon carefully considered hedonic considerations. (p. 267)

Cialdini and his colleagues have conducted a number of clever tests of the NSR formulation. For instance, in several tests of this view, results have shown that neutralizing sad moods through relief interventions reduces helping to levels comparable to control levels (e.g., Cialdini et al., 1973). Also, sad people have been found to help at high levels only when no other low-cost mood-enhancing activity is available (Switzer, 1989; discussed in Schaller & Cialdini, 1990), and only when mood is free to change (Manucia et al., 1984). In comparison, happy people help at high levels regardless of the availability of low-cost mood enhancers and regardless of whether their mood is thought to be fixed or labile.

Some researchers outside the NSR framework have also supported the view that negative states encourage mood management more than positive states. For instance, Cunningham and his colleagues found that happy people help more in response to social inducements to help, whereas people in negative states help more when the helping task is described as interesting (Cunningham, Shaffer, Barbee, Wolff, & Kelley, 1990). Because of this, Cunningham et al. stated that "individuals in a depressed mood are most influenced by the personal hedonic considerations involved with the request" (p. 13), but that "mood maintenance concerns were not the primary interest of the positive mood subjects" (p. 30). Similarly, Zillmann (1988) put forth an operant learning view of positive stimulation, stating that hedonically pleasant material should be rewarding in both happy and sad moods. Zillmann continued, however, by stating...
that “persons in acutely aversive states select hedonically positive stimuli over hedonically negative stimuli” but that “persons experiencing gratification display this preference to a lesser degree, if at all” (p. 152). However, the reason for this conclusion was neither explained nor supported empirically in Zillmann's discussions.

Critical Tests?

Have tests of mood management in happy as opposed to sad moods provided critical tests of the hedonic contingency or NSR formulation? That is, do they unambiguously support greater mood management in sad than happy states (or vice versa)? There is reason to question this. For instance, high levels of mood-management motivation were assumed to be present in Manucia et al.'s (1984) and Switzer's (1989) studies if people refused to help when their moods were temporarily fixed or when short-term mood enhancers were available but engaged in helping when moods were labile or when no alternative mood enhancers were present. It would seem, however, that higher levels of mood-management motivation would be evidenced by satisfying both long- and short-term hedonic goals than by satisfying only short-term hedonic goals (cf. Salovey, Mayer, & Rosenhan, 1991). Because the actions of happy people in both of these studies can be viewed as satisfying long- and short-term mood-management goals, these studies give no reason to believe that sadness would necessarily foster greater mood management than would happiness. That is, helping would tend to make a person feel good not only in the immediate situation, but also after the mood-fixing drug had worn off or the mood-enhancing tape had ended. In contrast, knowing that he or she refused to help could tend to make a person feel worse (e.g., because of anticipation of guilt) after the temporary effects of the drug or tape had ended. Thus, helping even when mood is fixed or when a temporary mood enhancer is present might be viewed as evidence of especially high levels of mood management rather than as a lack of motivation to manage mood (see also Wegener, 1991, for discussion of other studies often cited as support for mood management in negative but not positive states).

Thus, in the types of studies cited as critical support for mood management occurring exclusively in sad moods, happy people engaged in every mood-elevating activity available (and might be considered as serving both long- and short-term mood-management goals), whereas sad people did not. Because of this, one might consider the results of each of the studies discussed above as consistent with the hedonic contingency hypothesis.

The hedonic contingency hypothesis simply states that hedonic rewards are more contingent on scrutiny of hedonic consequences in happy states than in sad states. This provides a more parsimonious account of mood management than past statements that mood management exists because of learning processes in sad states but does not affect choices in happy states because of a variety of alternative processes that overpower or replace mood management. Unfortunately, no past studies have been derived from the hedonic contingency framework, and no existing support for the hedonic contingency hypothesis can be considered truly unambiguous, especially in the helping literature.

Studies that support mood management in happy states (e.g., Isen & Simmonds, 1978) have been criticized for using dependent helping measures that allow mood to change before the dependent measure is complete (Schaller & Cialdini, 1990). That is, Schaller and Cialdini contended that happy subjects helped less when the helping task was unpleasant because the negative helping task (reading negative Veiten statements) made happy subjects neutral before the dependent measures were complete. Such a criticism, however, cannot account for meta-analytic indications that increasing the pleasantness of the helping task increases the degree to which positive mood increases agreement to help over neutral moods even for unperformed (i.e., delayed) helping tasks (see Carlson et al., 1988).

In fact, meta-analytic integrations of helping studies have provided the strongest support for the hedonic contingency hypothesis. That is, meta-analytic integrations of studies that manipulated sadness or happiness fail to show any relation between sadness and helping (d = 0.05; N. Miller & Carlson, 1990), but show a moderately strong relation between positive mood and helping (d = 0.54; Carlson et al., 1988). Nevertheless, the difference between the outcomes of these meta-analyses is correlational rather than experimental. Consequently, the available literature might not provide an unambiguous test of the hedonic contingency hypothesis. In addition, the meta-analytic work has focused on helping behavior rather than on alternative means of mood management. Given these factors, additional experimental research on the hedonic contingency hypothesis seems desirable.

A Direct Experimental Test

A useful strategy for studying mood management would involve two steps: (a) inducing different moods and (b) allowing subjects in those moods to select from activities that vary in hedonic consequences. A similar selective exposure paradigm has been used with success in research testing the dissonance theory prediction that people prefer consonant to dissonant information (Festinger, 1957; see Frey, 1986, for a review). The outcomes predicted by the hedonic contingency hypothesis are similar to selective exposure in that mood-management strategies direct people toward choosing certain activities over alternatives. These basic choices are also present in studies of mood and helping. That is, people cannot both help and not help. In each situation, subjects must choose to pursue one alternative in lieu of the other.

One difficulty in using past selective exposure techniques lies

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1 It is also notable that decreases in helping observed after a relief intervention (e.g., Cialdini et al., 1973) might not be indicative of mood management. Putting sad subjects in a neutral mood before the helping opportunity would tend to decrease helping even if helping were instigated by factors separate from sadness-induced mood-management motivations (such as differential accessibility of thoughts pertaining to the misfortunes of others; Thompson, Cowan, & Rosenhan, 1980). Thus, neutralizing sad subjects does not seem to provide definitive evidence for mood-management motivations in sad moods.
in the form of the stimuli presented to participants. Past selective exposure studies have often presented subjects with specific titles of articles as the only information given about the stimuli. Titles of articles to be chosen were supposed to vary only on the dimension of agreeable versus disagreeable information. Unfortunately, in many cases, the titles seemed to vary on other dimensions as well. For instance, Frey (1986) noted that disagreeable articles in some studies were also more novel and potentially more useful than agreeable articles.

In the present research, we presented subjects in different mood states with a choice of watching various videotapes that varied in their presumed mood-altering properties. Confounding any of a number of qualities with the pleasantness of the tapes (e.g., interest, utility, or excitement) would seriously undermine the conclusions we could draw. Another potential problem with using stimuli such as titles is that images activated by the titles have the potential to change moods before any assessments of activity preferences are recorded. Thus, to control for these factors, we presented the subjects in the studies described below with stimuli containing only numeric information representing three qualities of the stimuli to be chosen. For instance, subjects were presented with choices such as Tape A with a happiness rating of 9 on a 10-point scale, an agreeableness rating of 2, and an interest rating of 8. Thus, subjects were given clear information that a particular tape selection was likely to make them happy, but no particular images were likely to be activated by seeing the ratings of the three qualities. In this way, we were also able to systematically vary (and thus equate) the qualities of stimuli on dimensions other than how the activity would make the person feel.

**Experiment 1**

In our first experiment, small groups of subjects watched either a happy, neutral, or sad videotape. They were then given information describing eight target tapes that they could choose to watch later in the session. Information provided about the target tapes varied on three dimensions, including the crucial dimension of how watching the target tape would affect subjects’ moods. Subjects were asked to rank the eight tapes from 1 (want most to watch) to 8 (want least to watch). Subjects then were given a second list of eight tapes varying on different dimensions and were asked to rank them in a similar manner.

If happy subjects make greater use of mood-management strategies than neutral or sad subjects, as suggested by the hedonic contingency hypothesis, then happy subjects should base their choices of subsequent activities on how the activities will make them feel more than subjects in a neutral or sad mood. If sad subjects make greater use of mood management, as suggested by the NSR model of helping and by others (e.g., Cunningham et al., 1990; Schaller & Cialdini, 1990), then sad subjects should base their choices of activities on how the activities make them feel more than neutral or happy subjects. Finally, if happy and sad people make equally high use of mood management, then both happy and sad subjects should base their choices of activities on how the activities will make them feel more so than neutral subjects.

**Method**

**Subjects**

Undergraduate introductory psychology students (N ~ 112) at Ohio State University participated in partial fulfillment of a course requirement. Subjects participated in groups of 3 to 9, with each group randomly assigned to one of the three mood conditions.

**Procedures**

Subjects participated in a study of “media preferences” in which they were to view and rate a number of videotaped clips. Subjects were seated in a single row of cubicles so that they were visually isolated from one another but could all see the large color monitor at the front of the lab. Before subjects watched a videotape that “had already been set up for them,” the experimenter described the form of the ranking task to be used in choosing tapes for “part two” of the session. Subjects were told that, following their rankings of tapes for “part two,” they would go to another room in the building where they would each watch tapes selected according to their personal rankings.

**Mood manipulation.** Subjects then watched and rated one of the videotapes designed to induce either a happy, neutral, or sad mood. The happy clip (from Late Night with David Letterman) featured a “top 10” list of good things about New York in the summertime and a series of stunts called “Stupid human tricks” (e.g., attempting to climb into an advertising balloon without the balloon deflating or bursting). The neutral clip (from Wild, Wild, World of Animals) described the social organization and behavior of lions. The sad clip (from You Don’t Have to Die) presented the diagnosis and treatment of a child with cancer. Each of the tapes was approximately 12 min long. The positive and neutral tapes were developed and used by Smith and Shaffer (1991). The negative tape was recorded for this study (see Wegener, 1991, for a more complete description of each of the three videotapes).

After watching one of the tapes, and consistent with the cover story, subjects completed measures related to their experience with the tape, including scales of how happy—sad, pleasant—unpleasant, and good—bad the tape made them feel and of how interesting—uninteresting they found the tape (with 1 representing positive qualities and 10 representing negative qualities).

**Activity choice: Ranking of target tapes.** After rating the initial mood induction tape, each subject ranked the eight target tapes, ranging from the tape he or she wanted to watch most (ranking of 1) through that tape he or she wanted to watch least (ranking of 8). The rankings were to be based on information given to subjects about each of the target tapes. Subjects were told that the eight target tapes had been rated previously by a large number of college students and that the average ratings of those students were being presented on three dimensions: how agreeable the tape was to students, how happy the tape made students feel, and how interesting the tape was to students. The information on each dimension was presented numerically on a 1 (not at all) to 10 (very much) scale. Each target tape was presented as having either a high average rating (approximately 8 to 9) or a low average rating (approximately 2) on each dimension so that the eight tapes included every possible combination of high versus low qualities on each of the three dimensions. All subjects received the target tapes in a single order that had been randomly determined (see Table 1 for the information grid provided to subjects for the first ranking task).

This ranking task was followed by a conceptually identical ranking task in which the three dimensions were how useful the tape was for students, how happy the tape made students feel, and how exciting or action-packed the tape was. All subjects received target tapes in a single
random order that differed from the order of the first task. Upon completion of the rankings, subjects were debriefed and thanked.

Results

Manipulation Checks

The three semantic differentials concerning how the mood-induction tape made subjects feel were summed to create a manipulation check on mood. A one-way analysis of variance (ANOVA) showed that the manipulation of mood was successful, \( F(2, 109) = 230, p < .0001 \). Duncan multiple-range tests showed that positive-mood subjects felt better \( (M = 4.89) \) than neutral-mood subjects \( (M = 10.48) \), who in turn felt better than negative-mood subjects \( (M = 21.72, ps < .05) \). Subjects also found all three tapes quite interesting. The one-way ANOVA showed there was a significant difference in interest among the tapes, however, \( F(2, 109) = 3.85, p < .03 \). The happy tape was seen as more interesting \( (M = 1.5) \) than either the neutral \( (M = 2.2) \) or sad tape \( (M = 2.1, ps < .05) \). Interest in the neutral and sad tapes did not differ.

Activity Choices

The ranks of the four target tapes presented as high on each dimension were summed to form an index of the extent to which subjects used that dimension in choosing their subsequent activities. The summed rank for each dimension was submitted to a one-way ANOVA with mood as the between-subjects factor. Because qualities of the eight target tapes represented every combination of high versus low levels of the three dimensions of information, differences found in how much subjects of varying moods use a dimension cannot be due to that dimension being confounded with the values of another dimension of information.

Use of the happy dimension. Of primary interest is the extent to which subjects in happy, neutral, and sad moods used information about how the target tapes would affect mood in making their choices. The mood manipulation significantly affected the extent to which subjects based their choices of target tapes on how happy the tapes would make them feel, \( F(2, 109) = 6.75, p < .002 \) (see top half of Table 2). Simple effects tests showed that positive-mood subjects preferred happy tapes \( (M = 12.71) \) more than neutral-mood subjects \( (M = 15.00), F(1, 69) = 8.95, p < .005 \). Positive-mood subjects also preferred happy tapes more than negative-mood subjects \( (M = 15.15), F(1, 77) = 10.84, p < .001 \). Neutral- and negative-mood subjects did not differ in how favorably they ranked the four happy tapes, \( F < 1 \). Thus, happy subjects used the potential mood effect of the target tapes as a basis for their action preferences to a greater extent than did neutral or sad subjects.

Table 2
Mean Summed Ranks as a Function of Mood and Information Dimension: Experiment 1, Tasks 1 and 2

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Agreeable</th>
<th>Happy</th>
<th>Interesting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mood</td>
<td>M SD</td>
<td>M SD</td>
<td>M SD</td>
</tr>
<tr>
<td>Task 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Happy ( (n = 38) )</td>
<td>17.16 2.46</td>
<td>12.71 3.30</td>
<td>14.37 2.93</td>
</tr>
<tr>
<td>Neutral ( (n = 33) )</td>
<td>15.70 2.42</td>
<td>15.00 3.12</td>
<td>12.70 3.40</td>
</tr>
<tr>
<td>Sad ( (n = 41) )</td>
<td>16.20 2.66</td>
<td>15.15 3.28</td>
<td>12.27 2.91</td>
</tr>
<tr>
<td>Usefulness</td>
<td>M SD</td>
<td>M SD</td>
<td>M SD</td>
</tr>
<tr>
<td>Happy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Happy ( (n = 38) )</td>
<td>16.29 2.65</td>
<td>12.71 3.41</td>
<td>14.74 3.41</td>
</tr>
<tr>
<td>Neutral ( (n = 31) )</td>
<td>16.39 3.47</td>
<td>15.19 3.65</td>
<td>12.84 3.38</td>
</tr>
<tr>
<td>Sad ( (n = 38) )</td>
<td>15.55 2.90</td>
<td>14.74 2.64</td>
<td>13.11 3.73</td>
</tr>
</tbody>
</table>

Tests of our hypotheses rest on the assumption that subjects perceive the happy dimension as more related to how they feel than other dimensions such as interest or agreeableness. To verify this assumption, 114 subjects were presented with information about two of the tapes (the tape high on the happy dimension and low on the other two dimensions and the tape low on the happy dimension but high on the other two dimensions). Information about past ratings of the tapes by college students was identical to information presented in Experiment 1. For one set of subjects, the dimensions were those used in Task 1 of Experiment 1 (see Table 1). The other set of subjects received the same numerical values, but received the dimensions used in Task 2. The order of happy and unhappy tapes was counterbalanced. This is a strong test of our assumption in that both alternative dimensions are working against choices of happy versus unhappy tapes. Subjects were asked to imagine that their goal was "to feel as good (positive, pleasant) as possible" and were asked to choose which tape would be most likely to satisfy that goal. A binomial sign test showed that more people chose the happy \( (75) \) than the unhappy tape \( (39; Z = 3.40, p < .0006) \). This tendency did not differ for the two sets of dimensions or the two orders of the listing.

Table 1
Information Given to Subjects About the Target Tapes: Experiment 1, Task 1

<table>
<thead>
<tr>
<th>Tape</th>
<th>Students agree with</th>
<th>Makes students happy</th>
<th>Interesting to students</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>8.4</td>
<td>8.9</td>
<td>2.4</td>
</tr>
<tr>
<td>B</td>
<td>8.1</td>
<td>2.1</td>
<td>2.2</td>
</tr>
<tr>
<td>C</td>
<td>2.9</td>
<td>9.1</td>
<td>8.2</td>
</tr>
<tr>
<td>D</td>
<td>2.3</td>
<td>1.6</td>
<td>2.7</td>
</tr>
<tr>
<td>E</td>
<td>2.6</td>
<td>2.5</td>
<td>8.5</td>
</tr>
<tr>
<td>F</td>
<td>7.8</td>
<td>8.7</td>
<td>8.8</td>
</tr>
<tr>
<td>G</td>
<td>2.5</td>
<td>9.0</td>
<td>2.0</td>
</tr>
<tr>
<td>H</td>
<td>8.6</td>
<td>2.0</td>
<td>8.7</td>
</tr>
</tbody>
</table>

Note. \( 1 = \text{not at all} \) and \( 10 = \text{very much} \).

---

4 The alternative dimensions selected for inclusion were either discussed by Frey (1986) as important influences in selective exposure to persuasive information (i.e., agreeableness and usefulness) or approximated the dimension of engagement-absorption discussed by Zillmann (1988) as a determinant of entertainment consumption (i.e., interest and excitement).

5 Tests of our hypotheses rest on the assumption that subjects perceive the happy dimension as more related to how they feel than other dimensions such as interest or agreeableness. To verify this assumption, 114 subjects were presented with information about two of the tapes (the tape high on the happy dimension and low on the other two dimensions and the tape low on the happy dimension but high on the other two dimensions). Information about past ratings of the tapes by college students was identical to information presented in Experiment 1. For one set of subjects, the dimensions were those used in Task 1 of Experiment 1 (see Table 1). The other set of subjects received the same numerical values, but received the dimensions used in Task 2. The order of happy and unhappy tapes was counterbalanced. This is a strong test of our assumption in that both alternative dimensions are working against choices of happy versus unhappy tapes. Subjects were asked to imagine that their goal was "to feel as good (positive, pleasant) as possible" and were asked to choose which tape would be most likely to satisfy that goal. A binomial sign test showed that more people chose the happy \( (75) \) than the unhappy tape \( (39; Z = 3.40, p < .0006) \). This tendency did not differ for the two sets of dimensions or the two orders of the listing.
We find robust support for the hypothesized pattern of activity choices when we inspect the data from the second ranking task (see bottom half of Table 2). Once again, the ranks of the four target tapes presented as high on the happy dimension were summed. The one-way ANOVA showed that the mood manipulation successfully affected the reliance of subjects on happiness information for choosing their tapes, $F(2, 104) = 6.01, p < .004$, even though the alternative selection dimensions were now different. Simple effects tests showed that positive-mood subjects again preferred happy tapes ($M = 12.71$) more than neutral-mood subjects ($M = 15.19$), $F(1, 67) = 8.51, p < .005$. Positive-mood subjects also preferred happy tapes more than negative-mood subjects ($M = 14.74$), $F(1, 74) = 8.40, p < .005$. Neutral- and negative-mood subjects did not differ in how favorably they ranked the four happy tapes ($F < 1$). Thus, the use of mood-management strategies was consistent across the tasks.

Use of alternative dimensions. One question arises in relation to these findings. Is the relative lack of attention to mood-based information on the part of people in neutral and sad moods representative of a general lack of attention to any of the qualities of the target tapes, or do people in neutral and sad moods find alternative dimensions of the target tapes more important? Although not of primary interest to this study, some dimensions of experience might be more important than effects on mood to people in neutral and negative states. To the extent that people in neutral and sad states attend to dimensions not directly concerned with how activities will affect mood, perceptions of how the activities will affect mood have less chance of driving their behavioral decisions.

For the first task, the agreeable dimension seems unlikely to have driven the tape choices for any of the mood groups (see top half of Table 2). Because the summed ranks of agreeable tapes are higher (less preferred) than those of interesting or happy tapes for each mood group, it seems unlikely that any decision to not particularly seek or avoid agreeable tapes would have affected choices along the other two dimensions. There is some evidence, however, of selective exposure to agreeable material in that people in neutral moods preferred agreeable tapes more than happy people did ($p < .05$), whereas sad people's preferences for agreeable material did not differ from those of happy or neutral people.

In addition, the interest dimension seems to have influenced the choices of subjects in neutral and negative moods differently than it did subjects in positive moods. When the ranks are summed for the four high-interest tapes, we find that the mood manipulation significantly affected the extent to which interesting tapes were preferred, $F(2, 109) = 5.05, p < .008$. Simple effects tests show that negative-mood subjects preferred interesting tapes ($M = 12.27$) more than positive-mood subjects did ($M = 14.37$), $F(1, 77) = 10.23, p < .002$, and neutral-mood subjects also preferred interesting tapes ($M = 12.70$) more than positive-mood subjects ($M = 14.37$), $F(1, 77) = 4.96, p < .03$. The neutral- and negative-mood subjects did not differ in their preference for interesting tapes ($F < 1$).

We find similar results for the dimensions on the second task (see top half of Table 2). The high (less preferred) ranks for the usefulness dimension across all mood states show that this dimension does not seem to have driven tape choices for any of the mood groups. There are no significant differences among mood groups regarding the extent to which useful tapes were preferred.

The excitement dimension, however, seems to have been important for subjects in neutral and sad moods. When the ranks are summed for the four high-excitement tapes, the manipulation of mood is found to affect subjects' reliance on the excitement dimension for making their choices, $F(2, 104) = 6.01, p < .004$. Sad subjects preferred exciting tapes ($M = 13.11$) more than happy subjects ($M = 14.74$), $F(1, 74) = 3.96, p < .05$, and neutral-mood subjects also preferred exciting tapes ($M = 12.84$) more than happy subjects ($M = 14.74$), $F(1, 67) = 5.33, p < .03$. Neutral and sad subjects did not differ in their preferences for exciting tapes ($F < 1$).

Convergent analyses. The information given to subjects about the qualities of target tapes did not use identical ratings for every tape high on that dimension (see Table 1). Thus, subjects might have believed that the slight differences in average ratings provided for each of the target tapes represented meaningful information about tape qualities. Because of this, we calculated standardized regression coefficients (beta weights) for each subject indexing the impact of each dimension of information on the rankings of target tapes, controlling for the impact of the other two dimensions of information. We used rank order correlations between the rankings of tapes given by subjects and the rankings of tapes predicted by each dimension of information to estimate the relation between subjects' rankings and each dimension of information. Similarly, we used rank order correlations between rankings of the tapes predicted by each of the information dimensions to estimate the relations among the rankings predicted by each of the information dimensions. Betas calculated using these rank order correlations were then submitted to a 3 (Mood) × 3 (Dimension) mixed-design ANOVA with mood as the between-subjects factor and dimension as the within-subjects factor (for similar procedures, see Anderson & Sechler, 1986; Lane, Murphy, & Marques, 1982).

Results paralleled those on the summed rank measure. For the first ranking task, there was a Mood × Dimension interaction, $F(4, 218) = 6.12, p < .0001$. Simple effects tests showed that people in a positive mood made more use of the happy dimension ($M = .668$) than people in neutral ($M = .420$) or negative moods ($M = .434$), $ps < .005$. Use of the happy dimension did not differ between neutral and sad subjects ($F < 1$). People in either a neutral mood ($M = .540$) or sad mood ($M = .586$) made more use of the interest dimension than people in a happy mood ($M = .333$), $ps < .03$. Neutral and sad subjects did not differ in their use of the interest dimension ($F < 1$). There were no differences in use of the agreeable dimension across mood states ($F < 1$).

On the second task, there was a Mood × Dimension interaction, $F(4, 208) = 4.03, p < .004$. Simple effects tests showed that happy subjects made more use of the happy dimension ($M = .668$) than neutral subjects ($M = .408$) or sad subjects ($M = .408$). Five subjects failed to complete the second ranking task and thus were not included in the analyses.
.508), ps < .04. Neutral and sad subjects did not differ in their use of the happy dimension, \( F(1, 67) = 1.49, p > .2 \). Simple effects tests showed that neutral subjects (\( M = .637 \)) and sad subjects (\( M = .634 \)) tended to make more use of the excitement dimension than happy subjects (\( M = .485 \), \( ps < .08 \)). Neutral and sad subjects did not differ in their use of the excitement dimension (\( F < 1 \)). There were no differences in use of the useful dimension across mood states, \( F(2, 104) = 1.85, p > .15 \).

**Discussion**

In Experiment 1, happy people based their behavioral decisions on information about how those activities would likely make them feel to a greater extent than people in neutral or negative states did. In addition, this effect occurred across alternative dimensions of information available at the time of the decision. We conducted a second study to provide a replication of Experiment 1 and to address some potential alternative explanations.

Specifically, one might argue that the effects we obtained in Experiment 1 were not due to mood states at all. That is, although all three mood-induction tapes were rated as highly interesting, there were differences that caused the happy tape to be seen as more interesting than the neutral or sad tape. Because of this, one might argue that happy subjects had less reason to seek out activities that were highly interesting, having just experienced an activity more interesting than that experienced by either neutral or sad subjects. Similarly, one could argue that neutral and sad subjects became more focused on interest because the tape they saw was not interesting enough. This could have kept them from using the happiness dimension as much as they might have if they had seen a more interesting mood-induction tape.7

Another possible nonmood explanation concerns subjects' expectations about future tapes based on the mood-manipulation tape. Subjects had presumably enjoyed (or at least found interesting) the tapes they watched as the mood manipulation. Because subjects were choosing additional tapes just after watching a tape, subjects might have felt most confident that they would enjoy the next tapes if they chose tapes with similar qualities to the tape they had just seen. After all, they did not know exactly what to expect from tapes that had very different qualities from the tape they had just seen. Thus, subjects might have used the most salient quality of each manipulation tape as a guide for their next choices. Of course, such an explanation assumes that the happy qualities are most salient for the positive tape but the interesting or exciting qualities are most salient for the neutral and negative tapes. This seems unlikely given the effective manipulation of sadness with the negative tape, but such an explanation cannot be ruled out on the basis of this first study.

**Experiment 2**

To replicate our first study and to address the possible alternative explanations, we made a central change in the second study. Specifically, we manipulated moods by having subjects read articles rather than view videotapes. That is, the mood manipulation in Experiment 2 constituted a completely different modality than the videotapes subjects were to choose for "part two" of the session. Using materials that crossed modalities between the manipulation and choice phases makes it much less likely that subjects would expect qualities of the chosen activities to directly match qualities of the initial activity.

Pilot testing revealed that although the articles used in Experiment 2 were effective in inducing the desired mood states, they were largely less interesting than the videotapes used in the first study. More important, although there were still differences in the rated interest of the articles among positive, neutral, and negative conditions, the pattern of interest ratings was quite different from that found in Experiment 1. Specifically, pretest subjects rated the sad article as more interesting than the neutral or positive articles, which were not rated differently from one another. Thus, if differences in interest of the mood-induction caused the differences in activity choice in Experiment 1, one would expect the neutral and positive subjects in Experiment 2 to make similar choices that would differ from those of negative subjects. If that did not occur, one could be more confident that choice differences were not being created by any (small) interest level differences associated with the mood induction stimuli.

A final change in procedure for Experiment 2 was that each subject completed only one ranking task. This task used the dimensions from either the first or the second ranking task of Experiment 1. Thus, group of dimensions used as labels was manipulated as a between-subjects variable rather than a within-subjects variable. In essence, then, Experiment 2 contains an internal replication.

**Study Overview**

Subjects were randomly assigned to read an article that induced either a happy, neutral, or sad mood. Subjects then completed one of two possible ranking tasks that were similar to those used in Experiment 1. On the basis of the results of Experiment 1, and consistent with the hedonic contingency hypothesis, we predicted that subjects in a positive mood would choose tapes according to how the tapes would make them feel to a greater extent than neutral- or negative-mood subjects would.

**Method**

**Subjects**

Undergraduate psychology students (\( N = 131 \)) at Ohio State University participated in partial fulfillment of a course requirement. Subjects participated in groups of 3 to 9, with each subject randomly assigned to one of the six conditions of the 3 (Mood: happy, neutral, or sad) \( \times 2 \) (Group of dimensions: agreeable–happy–interesting or useful–happy–...
exciting) design. Subjects were each assigned to mood-induction articles by an experimenter other than the experimenter who ran the session.

**Procedures**

The laboratory setup was the same as in Experiment 1. An experimenter introduced the session as a study on "imagery." Subjects were first asked to imagine themselves as one of the characters involved in an article that had been "recently published."

**Mood manipulation.** Articles developed in previous research (Kuykendall & Keating, 1990) were used to induce the happy, neutral, and sad moods. The positive article ("Meeting Them More Than Halfway") described the happy reunion of old friends. The neutral article ("Chicago Bounces Back") discussed the economic rejuvenation of Chicago. The negative article ("Camaroon's Valley of Death") provided an account of a natural disaster (see Wegener, 1991, for more detailed descriptions). After reading one of the articles, subjects completed measures related to their experience with the article, including three semantic differential scales of how good–bad, pleasant–unpleasant, and positive–negative imagining themselves in the article made them feel and how interesting–uninteresting they found the article (with 1 representing positive qualities and 9 representing negative qualities).

**Activity choice: Ranking of target tapes.** After providing these responses, subjects were directed to proceed with the next folder of activities that introduced the ranking task. The instructions on this page told subjects that they were to choose the materials for subsequent imagination tasks. Choices were to be from a list of potential videotapes whose qualities had been rated by past students, as in Experiment 1. Subjects received one of two possible lists of tapes. The lists were identical except in the dimensions of information presented. One of the lists presented dimensions of how generally agreeable the tape was to students, how happy the tape made students feel, and how interesting the tape was to students. The other list presented the same tapes and numerical information, but the dimensions of agreeable and interesting from the first list were replaced by labels of how useful and exciting the tapes were. The grid of numerical information was identical to the grid for the first task in Experiment 1 (see Table 1). On completion of the ranking task, subjects were thoroughly debriefed and thanked for their participation.

**Results**

**Manipulation Checks**

The three semantic differentials concerning how the article made subjects feel were summed to create a manipulation check on mood. A two-way ANOVA showed that the manipulation of mood was successful, $F(2, 125) = 108, p < .0001$. Duncan tests showed that positive-mood subjects felt better ($M = 7.84$) than neutral-mood subjects ($M = 14.56$) and negative-mood subjects ($M = 21.89, ps < .05$). Ratings of article interest also showed that the mood-induction articles differed in their level of interest, $F(1, 126) = 9.37, p < .0002$. As in the article pretests, Duncan tests showed that the sad article was viewed as significantly more interesting ($M = 2.60$) than the neutral article ($M = 4.57$) or happy article ($M = 4.07, ps < .05$). The interest ratings of the neutral and happy articles did not differ.

**Activity Choices**

As in Experiment 1, ranks of the four target tapes presented as high on each dimension were summed, and this summed rank was submitted to a 3 (Mood) x 2 (Group of dimensions) between-subjects ANOVA.

**Use of the happy dimension.** The mood manipulation significantly affected the extent to which subjects based their choices of target tapes on how the tapes would make them feel, $F(2, 125) = 7.66, p < .0007$ (see Table 3). Simple effects tests showed that positive-mood subjects preferred happy tapes ($M = 12.34$) more than neutral-mood subjects ($M = 13.90$), $F(1, 82) = 7.43, p < .008$. Positive-mood subjects also preferred happy tapes more than negative-mood subjects ($M = 14.80$), $F(1, 81) = 15.06, p < .0002$. Neutral- and negative-mood subjects did not differ in how favorably they ranked the four happy tapes, $F(1, 82) = 1.57, p > .2$. Thus, replicating Experiment 1, subjects in a positive mood used the potential mood effect of the target tapes as a basis for their choices to a greater extent than subjects in neutral or negative moods. This occurred regardless of the group of alternative dimensions presented.

In addition, dimension group had an overall impact on the choice of happy tapes, $F(2, 125) = 8.34, p < .005$. Although not of theoretical interest, this effect shows that happy tapes were preferred more when the dimensions were useful–happy–exciting ($M = 12.90$) than when the dimensions were agreeable–happy–interesting ($M = 14.39$), regardless of mood state. The interaction between mood and group of dimensions was not significant, $F(2, 125) = 1.24, p > .30$.

**Use of alternative dimensions.** The mood manipulation had no effect on choice of interesting–exciting tapes ($F < 1$), although the main effect of dimension group showed that tapes were preferred more when described as interesting ($M = 13.3$) rather than exciting ($M = 14.51$), $F(1, 125) = 4.16, p < .05$, regardless of mood. The interaction between mood and dimension group was not significant ($F < 1$). The mood manipulation also had no effect on choice of useful–agreeable tapes ($F < 1$), although the main effect of dimension group showed that tapes described as useful were preferred more ($M = 15.43$) than the same tapes described as agreeable ($M = 16.5$), $F(1, 125) = 4.54, p < .04$. The interaction between mood and dimension group was not significant ($F < 1$).

**Convergent analyses.** As in Experiment 1, we calculated standardized regression coefficients (beta weights). These betas were then submitted to a 3 (Mood) x 2 (Group of dimensions) x 3 (Dimension) mixed-design ANOVA with mood and group

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Agreeable-useful</th>
<th>Happy</th>
<th>Interesting-exciting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mood</td>
<td>$M$</td>
<td>$SD$</td>
<td>$M$</td>
</tr>
<tr>
<td>Happy ($n = 44$)</td>
<td>15.86</td>
<td>2.61</td>
<td>12.34</td>
</tr>
<tr>
<td>Neutral ($n = 44$)</td>
<td>16.34</td>
<td>3.65</td>
<td>13.90</td>
</tr>
<tr>
<td>Sad ($n = 43$)</td>
<td>15.77</td>
<td>2.49</td>
<td>14.80</td>
</tr>
</tbody>
</table>

Table 3

Mean Summed Ranks as a Function of Mood and Information Dimension: Experiment 2
of dimensions as the between-subjects factors and dimension as the within-subject factor.

Consistent with Experiment 1 and with analyses of the summed ranks, results showed a Mood × Dimension interaction (p < .056). The happy dimension had a greater impact on the rankings of happy subjects (M = .669) than on the rankings of neutral (M = .528) or sad (M = .436) subjects (p < .05). Impact of the happy dimension did not differ for neutral and sad subjects, and neither the interest–excitement nor the agreeable–useful dimensions differed in impact across moods.

**Discussion**

The results of Experiment 2 provide consistent support for the proposition that people in positive moods consider the hedonic consequences of subsequent activities more than people in neutral or negative moods. That is, subjects in whom a happy mood was induced chose their subsequent activities on the basis of the affective qualities of the tapes to a greater extent than people in whom neutral or sad moods were induced. In Experiment 2, the choice task was for experiences with very different qualities than those of the mood induction (i.e., watching and listening to a tape versus reading an article). Thus, it seems unlikely that subjects made their choices for later activities on the basis of an assumption that the entertainment qualities of those later activities would mirror those of the mood induction. Also, subjects rated the mood-induction articles in Experiment 2 as having very different interest characteristics than the videotape materials in Experiment 1.

Critics of the first two experiments might state, however, that the mood induced by the manipulations in those studies were somehow inappropriate for testing the hedonic contingency hypothesis. That is, exposure to a video about a child with cancer (Experiment 1) or reading about a natural disaster (Experiment 2) could have induced feelings other than sadness. For instance, these materials might also have produced relatively strong feelings of empathy, sympathy, or compassion for others. If people were experiencing these feelings along with sadness, they might have felt that choosing happy material for the subsequent tasks would be inappropriate. That is, picking happy material might make them seem flippant or insensitive to other people. This could be troubling for subjects if they thought that the experimenter would look on them disparagingly or if they simply did not want to think of themselves negatively.

Although we believe that the results of Experiments 1 and 2 are not due to empathy, we felt it best to deal with this possibility empirically. Thus, to address the empathetic alternative, we replicated our choice task using a manipulation of mood for which high levels of empathy are extremely unlikely—a modified version of the Velten (1968) mood-induction procedure used by Sinclair, Mark, Enzle, Borkovec, and Cumbleton (in press).

In addition to a concern about empathy, critics of our first two studies might argue that our results could have been obtained because subjects in our first two studies believed that the experimenter wanted them to remain in their initial mood (cf. Parrott & Sabini, 1990). This alternative would potentially predict that sad people would choose sad rather than happy mate-

rial in order to stay in the sad mood. This did not occur, however. Another potential explanation relies on impression management concerns. Specifically, subjects might have felt that it would seem inappropriate to select happy tapes when they were placed in a serious mood by the experimenter. That is, subjects might have feared that they would look frivolous if they selected happy tapes when placed in a sad mood. When the experimenter presented happy material initially, selecting happy material might be seen as more appropriate.

To address the viability of these possible reasons for our results, we asked 75 subjects their beliefs about actions expected by the experimenter and about the experimenter's likely views of the subjects in our first two studies (this was done in small groups before the beginning of an unrelated study). We provided subjects with four descriptions of experimental situations. These passages described a situation in which the experimenter showed subjects a videotape that made them feel either happy or sad. This was then followed by one of two scenarios. In one set of statements, subjects were said to be given the task of choosing an additional videotape to be watched later in the session (as in Experiments 1 and 2). Subjects were then asked what kind of tape the subjects thought the experimenter would expect people to choose. All subjects believed that the experimenter expected people to choose happy and interesting tapes, regardless of the mood induced by the initial tape shown by the experimenter (F < 1).

In the other set of statements, subjects were told that a person was made happy or sad by the experimenter and that the person then chose to view a happy tape. Subjects were then asked a number of questions about how the experimenter would likely view that person. The questions were unaffected by the mood factor. That is, subjects did not view sad people as more selfish, shallow, frivolous, or bad than happy people who chose happy material. In fact, the means on these measures were in a direction of sad people being viewed as less selfish, shallow, and so on, than happy people who chose happy material. Thus, to the extent that reactions to these descriptions matched those of other subjects from the same pool that were in our experiments, it would appear unlikely that our results were due to subjects' expectation of how they would be viewed if they chose happy material.

Finally, one reviewer raised another possibility. That is, because the sadness inductions in the first two experiments consisted of bad things happening to someone else, social comparison processes might actually have made sad subjects feel somewhat good or fortunate. This type of sadness induction might also have made especially salient the possibility that happy tapes to watch would consist of good things happening to others, which could make sad subjects feel worse according to social comparison. If one were to use this reasoning to interpret all of the data, then people who received the happiness induction actually would feel bad and prefer tapes that would make them feel worse, and people who received the sadness induction actually would feel good and prefer tapes that would make them feel worse (but to a lesser degree than people who received the happiness induction). Though this seems implausible, in Experiment 3, we used manipulations of happiness and sadness that were not likely to foster social comparison.
Experiment 3

Experiment 3 used the Velten (1968) mood-induction procedure to ease concerns about empathy and social comparison processes. The Velten procedure consists of a series of 60 first-person statements that subjects are asked to consider (e.g., "I'm discouraged and unhappy about myself"). Subjects are asked to feel the feeling described in each statement. In addition, we instructed subjects to think of times in their lives that the statements could be describing, or to consider how they would feel if the statement were describing one of their experiences. Thus, feelings induced by the procedure should be personally experienced and relatively free of empathetic concern for others. If the relative lack of mood management in sad moods observed in the first two experiments is due to empathy induced by our manipulations of sadness, then personal sadness induced by the Velten procedure should induce high levels of mood management (i.e., comparable to that of personal happiness). If the relative lack of mood management in sad moods is due to hedonic contingency factors, then personal sadness should induce less mood management than personal happiness in accord with Experiments 1 and 2.

Method

Subjects

Undergraduate psychology students (N = 19) at Ohio State University participated in partial fulfillment of a course requirement. Subjects participated in groups of 3 to 6, with each subject randomly assigned to either an elated or depressed mood condition.

Procedure

Subjects were told that the study had two goals—one for each of the two activities in the session. Subjects were informed that the first goal was to investigate what people experience when in different mood states and that the other goal would be explained when the mood experience activity was complete.

Mood induction. Subjects were told that the first activity had been used in a number of studies of mood. Subjects were further informed that the activity involved thinking about a series of statements written on sheets of paper. The 60 statements used by Sinclair et al. (in press; adapted from Velten, 1968) were presented on 20 sheets of paper (i.e., 3 statements per sheet). At 15-s intervals, the experimenter showed the number of the statement for subjects to consider. Subjects were instructed that "for each statement, you should consider the feelings described in the statement and try to feel those feelings—try to think of times in your life that the statements could be describing, or how you would feel if the statement were describing a time in your life."

After the last mood-induction statement, subjects responded to a series of semantic differentials asking about various aspects of the mood-induction task. Included in these questions were the mood manipulation checks. Subjects reported how thinking about the statements made them feel on 9-point scales anchored at bad—good, unpleasant—pleasant, negative—positive, and depressed—elated, respectively.

Activity choice: Ranking of target tapes. Following the mood manipulation check questionnaire, subjects read instructions describing the same activity choice task used in Experiments 1 and 2. The goal of the task was described as being an investigation of what qualities determine what people like to do or to avoid. The same instructions as used in Experiments 1 and 2 described the nature of the information provided about each available videotape. The numeric information and dimensions of information were identical to those presented in Table 1 (i.e., the agreeable, happy, and interesting dimensions). Subjects completed the same ranking of the tapes as in the first two experiments.

Results

Manipulation Checks

The four semantic differentials concerning how thinking about the statements made subjects feel were summed to create a manipulation check on mood. A one-way ANOVA showed that the manipulation of mood was successful, F(1, 17) = 45.7, p < .0001. That is, subjects who read the elated statements felt better (M = 28.0) than subjects who read the depressed statements (M = 11.78).

Activity Choices

As in Experiments 1 and 2, ranks of the four target tapes presented as high on each dimension were summed, and this summed rank was submitted to a one-way ANOVA with mood as the between-subjects factor.

As in Experiments 1 and 2, the mood manipulation significantly affected the extent to which subjects based their choices of target tapes on how the tapes would make them feel, F(1, 17) = 6.11, p < .025. Positive-mood subjects preferred happy tapes (M = 11.9) more than negative-mood subjects (M = 14.89). As in Experiment 2, no mood-based differences emerged in preferences for interesting or agreeable tapes (Fs < 1). Thus, consistent with Experiments 1 and 2, and with the hedonic contingency hypothesis, happy people made activity choices on the basis of the hedonic consequences of the activities to a greater extent than sad people (even though the sadness is unlikely to have involved any appreciable degree of empathy). We also calculated standardized regression coefficients (beta weights) that indexed the impact of each dimension of information on the rankings of the target tapes, controlling for the impact of the other two dimensions of information. These betas were then submitted to a 2 (Mood) × 3 (Dimension) mixed-design ANOVA with mood as the between-subjects factor and dimension as the within-subject factor.

Consistent with our previous results and with the hedonic contingency hypothesis, subjects who read the elated Velten statements made more use of the happy dimension (M = .723) than subjects who read the depressed Velten statements (M = .380), F(1, 17) = 6.84, p < .018. There were no differences in use of the agreeable and interest dimensions (Fs < 1). This pattern of effects resulted in the predicted Mood × Dimension interaction, F(2, 34) = 3.41, p < .045. Thus, the beta weight analyses provide convergent support for the hedonic contingency hypothesis when induced moods are quite unlikely to include high levels of empathy.

General Discussion

The results from all three experiments are consistent with the view that people in happy moods are more likely to strategically choose activities on the basis of the hedonic consequences of
those activities than are people in sad moods. That is, subjects who watched, read, or thought about uplifting (happy) material expressed preferences for subsequent activities on the basis of the affective quality of those activities to a greater extent than subjects who watched, read, or thought about depressing (sad) material. This pattern occurred across three different mood manipulations and with different sets of alternative dimensions of information available to guide choices.

Although the three experiments did not directly test the differential reward contingencies posited by our theoretical position, the pattern of results obtained is clearly consistent with the hedonic contingency hypothesis and with recent meta-analyses of the mood and helping literature (Carlson et al., 1988; Carlson & Miller, 1987; N. Miller & Carlson, 1990). The results of the present studies appear to conflict with portions of the NSR model of helping (Cialdini et al., 1973; Cialdini & Fultz, 1990) and with the integration of positive mood into the NSR framework (Schaller & Cialdini, 1990), however. Schaller and Cialdini (1990) argued that sad people are concerned with the hedonic consequences of activities and that happy people are not. It seems clear from the present data, however, that such a conclusion is premature or at least not universally true. Because of this, it is reasonable to ask whether studies supporting greater hedonic concern among sad than happy people were really the critical tests that they were designed to be.

As discussed earlier, many of the studies cited as support for the NSR framework can actually be viewed as consistent with the hedonic contingency hypothesis. For instance, in Manucia et al.'s (1984) and Switzer's (1989) studies, high levels of mood management were assumed to be revealed by helping when helping will serve short-term mood management and by refusing to help when helping will not serve short-term mood management. Is this a critical test of whether happy or sad subjects use helping to the greatest degree in managing mood? What if high levels of mood management include not only consideration of short-term mood management (e.g., the next 15 min) but also consideration of forces that will affect mood after temporary circumstances cease to exist (e.g., after the experiment is over; cf. Salovey et al., 1991)? In both Manucia et al.'s and Switzer's studies, subjects were expected to refuse to help in order to maintain high levels of mood management. Refusing to help might make those people feel worse in the near future, however (e.g., when the drug that fixed mood wears off or when the comedy video is over). In fact, people in moods that encourage high levels of mood management might be likely to consider not only short-term effects on mood, but factors that affect the future as well. Thus, the choices of happy people to help at high levels even if their mood is temporarily fixed (Manucia et al., 1984) or if a comedy tape is about to be shown (Switzer, 1989) could indicate high levels of mood management rather than low levels.

On the basis of the results of Experiment 1, one might wonder whether people in sad moods manage mood by seeking interesting or exciting tasks, which might include helping (perhaps in an attempt to distract themselves from their sad feelings; see Carlson & Miller, 1987). To the extent that helping activities have these qualities (e.g., see Cunningham et al., 1990), helping could facilitate mood management. The current studies along with the meta-analyses of Miller and Carlson argue that the specific mood-altering qualities of the helping task might not be as critical to sad people as other task characteristics. It should be noted, however, that sad people in the present studies never differed from neutral people in their activity preferences. Also, sad people in Experiment 1 chose interesting and exciting tapes even when they knew the tapes were sad. Thus, no strong evidence exists from the current research for sad people using distraction from current feelings as a means of mood management.

This is not to say that people in sad moods are never concerned with managing their moods. In fact, all groups in our experiments managed mood in that all groups preferred happy over unhappy activities—people in sad and neutral states simply did so less than people in a happy state. There might be some situations in which the mood-management tendencies of sad people could be enhanced to equal or exceed mood management by happy people. For example, some of the situations that create sad states also make affective experience, and motivations to manage that experience, especially salient. It could also be that people have been hedonically rewarded (i.e., their moods have been managed) in sad moods by getting involved indiscriminately in whatever activities are available at the time. Thus, sad people might be considered as attempting to manage mood, but by using a noncontingent strategy (i.e., a strategy other than scrutiny of the direct hedonic consequences of their actions). In addition, some individuals might be more likely than others to manage mood when sad. For instance, Catarzano and Mears (1990) have developed a measure of people's expectations that they can do something to manage their negative moods, and people who score high on this measure are more likely to actively manage negative states than are people who score low on the measure (e.g., Mears, 1991). Thus, both personal and situational factors might enhance mood management by sad people over the levels shown in the present research.

One might also consider that some modified version of the NSR model of helping might be viable—one in which sad people are not necessarily consciously concerned with the specific hedonic qualities of activities. Nevertheless, because helping has proved rewarding by alleviating negative moods in the past, sad subjects might gravitate toward helping tasks when in a negative mood through a classical conditioning mechanism even though they are unaware of the specific contingencies involved.

Alternatively, perhaps sad subjects might be unconcerned with the hedonic qualities of actions but attentive to the activity level of those actions. For instance, in their integration of many motivational forces, Schaller and Cialdini (1990) noted that sad mood is associated with decreased arousal and physical activity. Consistent with the homeostatic assumptions of their model, Schaller and Cialdini might assert that low levels of arousal and physical activity lead sad people to seek stimulating, engaging activities. At least according to our first study, these tendencies might even take precedence over attending to the effect on mood of possible activities. Thus, this version of the NSR might state that negative states are relieved by task engagement, but that the physical and mental activity level involved in the task is at the heart of decisions made by sad individuals.
It could also be that additional motives become salient in negative states and that some of these motives encourage helping. For instance, it could be that given a choice between helping activities and other equally engaging activities, sad people would choose to help. If this were the case, it could be because of negative states signaling to the individual that there is a problem in the world that must be solved (cf. Schwarz, 1990). Encountering a person who needs help certainly presents a problem in one’s psychological environment. Thus, helping by sad people would be consistent with Frijda’s (1988) assertion that “emotions exist for the sake of signaling states of the world that have to be responded to” (p. 354). A negative mood might also make the misfortune of a victim seem worse (more problematic) and thus more deserving of attention (cf. Gleich, Baker, Petty, Wegener, & Smith, 1994). The procedural routines that could predispose sad people to offer help might be applied even in situations that will not offer relief from the negative state. Thus, it could be that helping is increased when people are sad, but that the helping responses of sad people depend less on the anticipated affective consequences of those responses than on other factors.

Mood Management and Helping

As mentioned above, past studies of mood and helping have provided subjects only with opportunities to help or not help. Although such circumstances might closely reflect many of the helping choices made in everyday life, these alternatives differ in many features of experience potentially relevant to mood management. Because of this, future studies of mood and helping might use choices among numerous helping activities. Qualities of the activities other than the hedonic consequences could be systematically varied within subjects, or could be controlled, so that more precise inferences could be made about the helping behavior of happy and sad people.

In addition, as greater understanding of the use of mood-management strategies associated with positive and negative states is gained, greater attention should be paid to specific emotions in the positive and negative categories. For instance, it may be that anger, guilt, and sadness each engender distinct motivations regarding mood management. Although work in the mood and helping literature has included guilt (e.g., Cialdini et al., 1973; Cunningham, Steinberg, & Greb, 1980), differences between the motivations engendered by guilt and other negative states such as sadness have not been fully researched. The results of the present studies are likely to reflect the qualities of sadness rather than those of other negative states.

Mood Management Beyond Mood and Helping

The results of the present studies not only allow one to have additional confidence in hedonic contingency interpretations of past mood and helping results, but also to more confidently apply hedonic contingency notions to new areas of research in which mood effects have received attention. One such area is the work on mood and amount of cognitive processing. In this area, a number of researchers have argued that positive states lead to less processing of persuasive communications than neutral or negative states (e.g., Bless, Bohner, Schwarz, & Strack, 1990; Kuykendall & Keating, 1990; Mackie & Worth, 1989). Explanations concerned with cognitive capacity (Mackie & Worth, 1989) and mood-as-information (Schwarz, 1990) have been most prevalent in accounting for these results. A mood-management explanation might also explain these deficit effects, however, and remain capable of explaining studies that have found enhancement of cognitive performance in positive states (e.g., creative problem solving; Isen, Daubman, & Nowicki, 1987; thought generation; Murray, Sujan, Hirt, & Sujan, 1990).

That is, the studies that find processing deficits in positive moods have tended to use counterattitudinal, depressing messages (e.g., student fee increases), whereas the activities showing enhancement of cognitive activity in positive moods have not been mood threatening. Thus, it could be that many of the deficit effects found for positive-mood subjects have been the result of happy people avoiding mood-disrupting activities, and positive-mood enhancement of processing might be found when the cognitive activity serves to maintain happiness. As suggested by one of the reviewers, it might be that mood effects on the amount of cognitive processing given to the choice tasks could have influenced our results. That is, if one were to assume that positive moods universally decrease cognitive processing, this might have restricted the use of dimensions in choosing tapes to only the salient dimension of how the activity would make people feel. In comparison, sad people might use the happiness dimension, but because they also process all the other information, they use some combination of happiness and other dimensions, which forces their direct happiness rankings down. There are a number of reasons why we believe that such a possibility does not reasonably account for the present data. Because a variety of researchers have found increases in processing in happy as opposed to neutral or sad states (e.g., Goldberg & Gorn, 1987; Mathur & Chattopadhyay, 1991; Murray et al., 1990), the assumption of universal processing deficits for happy people appears to be unjustified. This is especially the case given that the cognitive effort in this case can be in the service of maintaining the happy state and does not involve demonstrably negative material. Furthermore, this alternative would seem to make a number of predictions that are not borne out in our data. For instance, according to the processing deficit idea, the sum of standardized beta weights (that index the impact of each dimension of information partialing for the impact of each of the two other dimensions) should be significantly greater for sad or neutral than for happy people. This does not occur for any of the reported studies. Instead, the sum of betas is virtually identical across moods. The processing deficit alternative would also seem to assert that if one were to examine combinations of the happiness dimension with the other dimensions, activity choices of neutral or sad people should be predicted better than those of happy people. When betas are computed for combinations of the happy dimension with either of the other two dimensions, the choices of happy people are actually predicted significantly better than the choices of neutral or sad people in 9 of the 14 possible hypothesis tests (and the mean differences are in the same direction for the remaining 5 tests, with all 5 differences having p levels less than .11). Finally, someone supporting the positive-mood processing deficit position might expect that combining all three dimensions of information in predicting activity choices would lead to better prediction for neutral or sad people than for happy people. This is not the case. When all three dimensions are combined and used to predict activity choices, there are no mood-based differences in choice prediction (all Fs < 1) and mean betas favor pre-
diction of choices by happy rather than neutral or sad people. Thus, although consistent differences in the use of the happy dimension are found across affective states, there is no evidence in the data that these differences were created by a deficiency on the part of positive-mood subjects in integrating information from the other dimensions of information.

References


