

## Now that I Think about It, I'm in the Mood for Laughs: Decisions Focused on Mood

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### ABSTRACT

Four studies examined the impact that thinking about mood can have on people's choices. In Study 1, participants who were asked to suppose they were in good, bad, or neutral moods were more likely to choose a silly comedic movie over an otherwise more attractive drama, compared to others who had not thought about mood. Similar patterns were observed when people introspected about how they felt before making a hypothetical choice (Study 2) or an actual choice (Study 3). In Study 4, participants who pursued mood-relevant information chose to see a comedic play more often than those who had not focused on such information. Thinking about their own mood appears to increase decision makers' concern with the hedonic consequences of decisions, thereby promoting mood regulatory activities and altering preference, possibly in favor of suboptimal outcomes. Copyright © 2006 John Wiley & Sons, Ltd.

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Uncertainty about the consequences of everyday decisions can make it hard to predict which option will prove best. Research shows that people often construct their preference in the context of decision, and that nuances in the information that is salient at the time of decision can dramatically influence choice (Bettman, Luce, & Payne, 1998; Slovic, 1995; Tversky & Kahneman, 1986). In particular, the weights that decision makers place on different attributes, and their resulting choices, can change based on the information attended to (Bastardi & Shafir, 1998, 2000; Shafir & LeBoeuf, 2004). Mood often provides such information, and can play a vital role in preference construction as people attempt to determine which option will feel most appropriate given their affective state and motives (Pham, 1998; Shiv & Fedorikhin, 1999).

This paper explores the consequences that result when decision makers focus on mood, particularly when they make simple choices that are seen as capable of influencing mood. Four studies find that thinking about one's mood, regardless of its valence, increases preference for options that appear more likely to promote a

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good mood, even if those options would otherwise have been rejected in favor of others. The results are related to existing literature on mood in decision making, and some potential implications are discussed.

### A CURIOUS PREDICTION ABOUT MOOD SALIENCE

People's affective states activate associations that influence cognitive processes. Affect can produce memories (Bower, 1981) and judgments (Isen, Shalcker, Clark, & Karp, 1978) that are congruent with one's current mood, and can ultimately predispose people to behave in affectively consistent ways (Leventhal, 1980). Thus, all else being equal, when choosing between movies, people in a sad mood might be expected to pick a heavy drama more often than people in a happy mood, who might prefer a comedy.

Research on mood salience in evaluative judgments has produced some interesting results. For instance, automatic reactions—such as negative affect in response to an aversive event—can be regulated by higher-order cognitive processes when the relevant feelings are attended to (Berkowitz, Jaffee, Jo, & Troccoli, 2000). It appears that individuals differ in the extent to which they are conscious of, and acknowledge, such negative emotions. In a series of studies, participants high in affect acknowledgement were more likely than those low in affect acknowledgement to recruit positive memories following the induction of a negative mood (McFarland & Buehler, 1997). To account for these findings, the authors proposed a two-stage model in which individuals must first acknowledge their negative mood states before they can actively adopt strategies to cope with them.

Similar evidence comes from studies by Gasper and Clore (2000), who argue that people have to attend to, or monitor, their feelings in order to rely on those feelings as a source of information in judgment. Individuals who regularly monitor their feelings—those high in 'emotional attention'—are more likely to rely on such feelings when making a judgment than are those who are low in emotional attention. Inducing a negative mood increased the perceived likelihood of personally-relevant negative events among individuals high, but not low, in emotional attention, but that pattern was reversed when participants were given an attribution manipulation that provided a salient cause to which they could attribute their feelings (Gasper & Clore, 2000). As these authors suggest, moods are likely to have the greatest influence on judgment when they are both attended to and perceived to be relevant.

The conclusions above are consistent with the notion that the information provided by mood will be weighted most heavily—and have its greatest impact on judgment—in situations where it is more salient than other potentially relevant judgment cues (Schwarz, 1990). In a test of this hypothesis, Siemer and Reisenzein (1998) directly manipulated the salience of induced moods and found that mood influenced judgments of life satisfaction (higher ratings following positive mood induction) only when mood was salient. They concluded that mood needs to exceed a minimum threshold of salience or attention in order to affect evaluative judgments.

Extending the above findings to the realm of decision making leads to an interesting set of predictions regarding the effect of mood salience on choice. In the absence of an explicit focus on mood, people's choices may be susceptible to mood congruence: they might tend to prefer a heavy drama when feeling sad, and a comedy when feeling cheerful. Thinking about mood, on the other hand, may have a different impact: people who think about their positive mood will want to protect it by avoiding potentially threatening experiences, whereas those who focus on a negative mood will appreciate the opportunity to repair it (or prevent it from getting worse) by seeking out cheerful alternatives.

In fact, research on mood management shows that people tend to avoid exposure to conditions that may challenge or threaten a current good mood (Isen, 2000), and that they choose to expose themselves to positive experiences in order to repair a bad mood or to keep it from getting worse (Cialdini, Darby, & Vincent, 1973; Josephson, Singer, & Salovey, 1996; Zillman, 1988). For people in sad moods, there is much to gain by strategically engaging in mood management; for people in positive moods, there is reason to apply great scrutiny

to the hedonic consequences of a choice because those in a happy mood have much to preserve (Wegener & Petty, 1994). Regardless of its valence, focusing on mood may result in preference for a cheerful over a heavy experience.

Notice that the above discussion focuses on people's beliefs about the relationship between mood and decision once they have been led to focus on mood, independent of any actual mood manipulation. Indeed, Robinson and Clore (2002) have reviewed numerous studies involving emotional self-report, and have developed an accessibility model that treats genuine affective feelings as conceptually distinct from mere beliefs about emotion. This distinction is important in the design of the following experiments.

Because we are interested in the impact of thinking about one's own mood on ensuing decisions, the following studies did not attempt to manipulate actual moods. Instead, our studies merely explored the effects of triggering thoughts about mood on mood-relevant choices. When they are not preoccupied with mood, participants are assumed to base their decisions on a variety of considerations, including perceived attractiveness, personal tastes, and congruence. Once they think of mood, however, participants were predicted to give greater weight to mood-relevant considerations and thus to be more likely to choose options that are seen as conducive to a positive mood, even if these same options would not have been chosen in the absence of a specific focus on mood.

## STUDY 1

Study 1 explored whether merely rendering a hypothetical mood salient might lead people to choose entertainment options consistent with mood regulatory strategies. The simplest way to invoke people's naïve theories about the influence of affect on decisions is to have them imagine how they would behave when in a particular mood. As Pham (2004) notes, "vignette studies may tell us more about affective beliefs and naïve theories of affect than about real feelings and emotions" (p. 364). As such, short vignettes were presented in an attempt to tap into people's beliefs about the impact of mood on choice.

### Method

#### *Participants*

One hundred forty-one participants in a metropolitan train station indicated which of two movies they would prefer to see.

#### *Conditions and dependent measure*

All participants were asked, "Which of the following two types of movies would you choose to see?" and were then offered a choice between a "silly, frivolous comedy" and an "intense, highly acclaimed drama." Four mood conditions were manipulated between subjects, immediately preceding the choice question. In the *no-attention-to-mood* ( $n = 34$ ) condition participants were simply told, "Imagine you have decided to see a movie." In the *imagined-neutral-mood* ( $n = 34$ ) condition participants were asked to "Imagine you are in a neutral mood (that is, you are not in a particularly good or a particularly bad mood) and have decided to see a movie." The *imagined-good-mood* ( $n = 37$ ) and *imagined-bad-mood* ( $n = 36$ ) conditions had participants "Imagine you are in a particularly good [bad] mood and have decided to see a movie."

The brief movie descriptions were intended to render the comedy an inferior option, one that would require some rationale (related to mood in this case) before it was chosen over the more attractive ("highly acclaimed") alternative. We expected the comedy to be chosen more frequently in all the imagined mood conditions relative to the no attention to mood condition, with preference for comedies most pronounced in the imagined-good-mood and imagined-bad-mood conditions.

Table 1. Study 1: Choice of movie after imagining mood

	Percentage of Subjects who Chose Comedy versus Drama	
	Comedy	Drama
Condition		
No Attention to Mood ( $n = 34$ )	35	65
Imagined Neutral Mood ( $n = 34$ )	56	44
Imagined Good Mood ( $n = 37$ )	65	35
Imagined Bad Mood ( $n = 36$ )	75	25

$F(3, 137) = 4.35, p < 0.006$ .

### Results and discussion

The results, summarized in Table 1, support our predictions. In the absence of mood salience, the comedy proved to be the inferior option, chosen by only 35% of participants. On the other hand, those in the imagined-good-mood condition were more likely to choose comedies (65% comedies) than the no-attention-to-mood group,  $\chi^2(1, N = 71) = 6.20, p < 0.02$ , as were those in the imagined-bad-mood condition (75% comedies),  $\chi^2(1, N = 70) = 11.17, p < 0.001$ . Those in the imagined-neutral-mood condition chose comedies 56% of the time, marginally more often than the no-attention-to-mood group,  $\chi^2(1, N = 68) = 2.91, p < 0.09$ . The tendency to choose comedies did not differ between the imagined good and bad mood conditions, nor did these differ significantly from the imagined-neutral-mood condition.

The  $F$  statistic from an ANOVA has been shown to give accurate—and conservative—results for large samples of a dichotomous dependent variable (Snedecor & Cochran, 1967); we thus conducted an ANOVA to confirm an overall difference between conditions,  $F(3, 137) = 4.35, p < 0.006$ . A contrast—with weights of  $-2$  (no mood),  $0$  (neutral mood),  $1$  (good mood), and  $1$  (bad mood) revealed a significant linear trend across conditions, with choice of comedy increasing from the no-attention-to-mood to the neutral mood to the combined good and bad mood conditions,  $t(137) = 3.49, p < 0.001$ .

These results provide some indication that making mood—even “neutral” mood—salient can shift preference from intense dramas to light comedies. Imagining good and bad moods had the greatest impact, presumably because these most clearly highlighted the need for mood regulation. On the other hand, because participants were merely asked to imagine being in those moods, this likely had a limited effect on their real emotional state. The results are thus illuminating in that the mere mention of mood apparently caused a shift in preference, even in the likely absence of real mood experience. In the next study, we investigated whether calling attention to actually experienced mood states can cause a similar shift in preference.

## STUDY 2

Study 2 was designed to test whether making actual moods salient—by asking people how they are feeling—would increase preference for relatively happy alternatives.

### Method

#### Participants

Seventy-eight Princeton University undergraduates were paid \$6 to complete a brief questionnaire.

### Conditions and dependent measures

Two groups of subjects were presented with a choice of movies and a mood rating task, in different orders. Those in the *mood first* condition ( $n = 37$ ) received the mood rating task followed by the choice of movies; those in the *mood last* condition ( $n = 41$ ) first were presented with the movie choice question and then the mood rating task. The mood rating task was designed to increase mood salience by having subjects focus on and label their moods. Participants first indicated how they were feeling on a scale ranging from 1 (*sad/bad mood*) to 7 (*happy/good mood*), and then described in a sentence or two their moods at the time. A similar technique was used by Siemer and Reizenstein (1998), who explain that, “this method of increasing mood salience, which was previously used and found to be effective by Rothkopf and Blaney (1991), has face validity: Asking someone to introspect and to report on his/her mood seems to be the most direct possible method of getting the person to focus attention on his/her current mood and to make it an object of thought; hence this method makes the mood salient almost by definition” (Siemer & Reizenstein, 1998, p. 790).

In the choice stage, participants indicated which of the following two films they would rather see:

*Leave them Laughing* is a light comedy about an aspiring young comic named Sammy trying to make it big in New York City. Sammy works to improve the comedy of his personal anecdotes. Since his stories often lack originality and inspiration, his rise to the top of the comic circuit depicted in this film is implausible. Nevertheless, *Leave them Laughing* is an adequate variation on an old theme, attempting to make its audience laugh by sharing the jokes of an aspiring comic.

*Aftermath: A Test of Courage* details the life of Michael Lock, an aloof physician who has only his family to rely on for support. This highly acclaimed masterpiece describes how Lock’s family falls victim to a violent, random crime. His wife is murdered, and one of his sons is kidnapped. Surviving this ordeal, Lock struggles to hold his remaining loved ones together as he strives to reassemble his own battered psyche. The captivating performances of the cast bring the melancholy of this fascinating drama to life.

As in Study 1, the drama was designed to appear as the superior option, thus rendering preference for the forgettable comedy more noteworthy in the conditions of mood salience.<sup>1</sup> The mood rating scale appeared on a separate page of the booklet from the choice question, in a different font and format. None of the participants suspected a relationship between the two tasks, suggesting limited (if any) potential demand effects.

### Results and discussion

As summarized in Table 2, the comedy was chosen by a mere 32% of participants in the *mood last* condition, but by a full 62% of those in the *mood first* condition,  $\chi^2(1, N = 78) = 7.26, p < 0.01$ . The mean mood ratings of those in the *mood first* ( $M = 4.76$ ) and *mood last* ( $M = 4.98$ ) groups did not differ,  $t(76) = 0.69, ns$ . The act of thinking about and labeling one’s mood apparently had a significant effect on participants’ choices. In line with our hypothesis, and consistent with results from Study 1, those who focused on their mood were more likely to choose a comedy than those who did not.

The preference for comedy among those who focused on mood occurred regardless of the mood they discovered. A median split performed on the reported moods of *mood first* participants found no difference in preference for comedy between those in negative and positive moods. Sixty-two percent of those in the lower half of mood rankings chose the comedy, compared to 64% of those in the higher half of mood rankings,  $\chi^2(1, N = 37) = 0.01, ns$ . Those in a good mood apparently felt compelled to avoid a heavy drama that could threaten it. Those in a bad mood might have recognized the opportunity to repair it (or avoid making it

<sup>1</sup>Indeed, the drama was 1) preferred by 68% of participants in the mood last condition; 2) chosen by 70% of participants in a pretest that made no mention of mood; and 3) selected by 81% of participants as the option they would recommend to a friend on a posttest.

Table 2. Study 2: Choice of movie before and after labeling mood

	Percentage of Subjects who Chose Comedy versus Drama	
	Comedy	Drama
Condition		
Mood Last ( $n = 41$ ) (label mood after choice)	32	68
Mood First ( $n = 37$ ) (label mood before choice)	62	38

$\chi^2(1, N = 78) = 7.26, p < 0.01$ .

worse) by seeing a lighthearted comedy. In either case, rendering mood salient increased preference for an otherwise less attractive comedic film.

Previous research has shown that when people are the object of their own attention (such as when they view themselves in a mirror), they often focus on a comparison of the self to perceived social norms (Duval & Wicklund, 1972). Perhaps our manipulation, which focused on mood, more generally directed attention to the self, thereby leading participants to give what they thought would be normatively appropriate or generally expected responses.

To address this possibility, we ran two additional studies designed to heighten self-awareness without specific attention to mood. Both studies presented a choice between the same two movies as in Study 2. In the first study ( $n = 80$ ), instead of focusing on mood, half the participants were randomly assigned to answer "How healthy are you right now?" before choosing between movies, whereas the rest simply chose between the movies without answering a preceding question. Unlike Study 2, we observed no significant difference in choices between the two groups. Among those who focused on their health, 35% chose the comedy, compared to 45% among the controls,  $\chi^2(1, N = 80) = 0.83, ns$ . In fact, the comedy was significantly more popular among those who first responded to the mood question in Study 2 than among those who first responded to the health question in the follow-up study; 62% versus 35%,  $\chi^2(1, N = 77) = 5.68, p < 0.02$ .

Similar results were obtained in a second follow-up study, in which the mood question was replaced by a question about how tall participants thought they were relative to the average college student. Again, this self-awareness manipulation did not influence choice. Thirty-five percent of the control group picked the comedy, compared to 40% of those who were first asked about their height,  $\chi^2(1, N = 80) = 0.21, ns$ . Once again, more people chose the comedy following the mood question in Study 2 (62%) than following the height question in this study (40%),  $\chi^2(1, N = 77) = 3.78, p = 0.05$ .<sup>2</sup>

Focusing on other aspects of the self does not appear to shift preference toward comedies the way that attention to mood does. Whereas self-awareness may be a contributing factor, these follow-up studies support the notion that focusing on mood has a particular effect on choices that appear mood-relevant.

### STUDY 3

Study 3 extended the previous studies by offering somewhat different entertainment options—audio recordings—that were to be actually experienced by respondents rather than just hypothetically contemplated.

<sup>2</sup>Of course, the usual caveats concerning null effects and comparison across studies apply. Thus, it is possible that a single question about the self was simply insufficient to produce an effect. By running a comparable manipulation on the same number of participants as in the original studies, we can at least conclude that, in this context, the effect of a question about the self was weaker than the effect produced by a question about one's mood.

## Method

### Participants

Eighty-eight participants from an existing study pool were paid \$15 to complete a set of unrelated studies.

### Conditions and dependent measures

Two groups of subjects received an audio recording choice question and a mood rating scale, in different orders. In the *mood first* condition, participants ( $n = 44$ ) received a mood rating task followed by the choice between recordings; in the *mood last* condition ( $n = 44$ ), they first received the recording choice question and then the mood rating task. The mood rating scale was identical to the one used in Study 2 in which participants first indicated how they felt on a scale ranging from 1 (*sad/bad mood*) to 7 (*happy/good mood*), and then briefly described their mood at the moment. (To roughly equate effort and timing in the two conditions, participants in the *mood last* group were first presented with a similar-length page before making their choice in which they simply reported what they did before coming to the experiment instead of describing their mood.)

Although no participant in Study 2 reported any suspicion about a possible relationship between the mood questionnaire and the subsequent choice, in this study we took even greater pains to mask this connection. Just before this study, participants completed an unrelated, computer-based experiment. At the end of that experiment, those in the *mood first* condition were presented with the mood questionnaire in the same font and color scheme as the unrelated experiment, ostensibly answering the final questions of the preceding study. Upon completion of this page, participants were told that the first experiment was over. They then had to click on a button at the bottom of the page to proceed to the next experiment, which took them to an instructions page for the current study with a different title, text size, font, and color scheme from the previous experiment.

For this study, participants were told that the researchers were looking to gauge the attractiveness of two brief recordings, described as follows:

*Comedy Routine:* In this recording, an aspiring amateur comedian is trying out jokes for his first routine. His jokes tend to consist of silly one-liners that lack somewhat in originality and inspiration. His friends who have heard him practice say that his jokes produce some laughs, but doubt that his material will ever be funny enough for him to be very successful. Some have even suggested that the time they spent chuckling at his act was time that could have been put to better use.

*Dramatic Reading:* This is a recording of a Nobel Prize winning poet reading an excerpt from one of his most highly acclaimed poems. This dramatic poem details the journey of the human soul searching for redemption. The intensity of the poet's own voice offers a captivating performance that allows the listener to feel the melancholy of this fascinating exploration, and has been described as a moving experience by those who have heard it.

The recordings were said to be of roughly equal lengths, although the actual length was not disclosed. Both recordings appeared side-by-side on the screen, and the order in which the two descriptions appeared (on the left or the right of the screen) was counterbalanced. Participants read the two descriptions and then chose the recording they preferred to listen to. They then put on headphones, listened to their chosen recording (excerpts from a stand-up routine of comedian Mitch Hedberg or T.S. Eliot reading from *The Waste Land*), and proceeded to another unrelated experiment.

## Results and discussion

As summarized in Table 3, the comedy was chosen by 43% of participants in the *mood last* condition, and by 64% in the *mood first* condition, showing the predicted increase in preference for comedy following the

Table 3. Study 3: Choice of audio-recording before and after labeling mood

	Percentage of Subjects who Chose Comedy versus Drama	
	Comedy	Drama
Condition		
Mood Last ( $n = 44$ ) (label mood after choice)	43	57
Mood First ( $n = 44$ ) (label mood before choice)	64	36

$\chi^2(1, N = 88) = 3.70, p = 0.05$ .

mood report,  $\chi^2(1, N = 88) = 3.70, p = 0.05$ . Mean mood ratings in the *mood first* ( $M = 4.34$ ) and *mood last* ( $M = 4.47$ ) conditions did not differ,  $t(86) = 0.39, ns$ . The order in which the recordings appeared had no effect on choice.

Furthermore, a median split on the reported moods of participants in the *mood first* group revealed no difference in preference for comedy between those in positive and negative moods. Sixty-two percent of those in the lower half of mood rankings chose the comedy, compared to 67% of those in the higher half of mood rankings,  $\chi^2(1, N = 44) = 0.12, ns$ .

Merely thinking of their mood moments earlier in a seemingly unrelated context apparently led people to shift their preference from a Nobel Prize winning poet to a silly comedian. These results extend the patterns observed in the first two experiments by demonstrating the effect with real, consequential choices for participants' actual experience.

Clever studies in the "affect-as-information" literature (see, e.g., Schwarz, 1990; Schwarz & Clore, 1983, 1988) have shown that calling people's attention to their moods can serve to diminish the effects of those moods on subsequent evaluations. This may seem to be in tension with the present findings, where a focus on mood seems to increase its impact. The difference, we suggest, is attributable to whether or not mood seems relevant to the task. When asked to rate their satisfaction with life, participants whose attention is directed to the fact that the day's weather may have negatively affected their mood tend to adjust for what appears like an immaterial factor. Such misattribution manipulations work precisely because they focus attention on a potentially irrelevant source of one's affective reactions. On the other hand, when asked to choose between mood-relevant alternatives, a heightened focus on mood at the time of choice only leads people to rely on it further.

Evidence consistent with the idea that people consider the relevance of their feelings to the task at hand comes from Pham (1998), who has demonstrated that people perceive their feelings to be more relevant for decisions guided by an experiential motive (e.g., seeing a movie with a friend) than an instrumental motive (reviewing a movie for a school assignment). These findings support the notion that calling attention to mood can bolster its prominence in subsequent evaluations where it appears to be relevant.

#### STUDY 4

The foregoing studies provide converging evidence that making mood—either imagined or actual—salient can lead people to focus on hedonic considerations and cause a shift in preference. Study 4 used a slightly different methodology to increase mood salience: people were led to attend to and pursue mood-relevant information, thereby increasing their attention to mood and their reliance on the obtained information.

Recent studies (Bastardi & Shafir, 1998, 2000; Redelmeier, Shafir, & Aujla, 2001) have found that people who pursue a piece of information tend subsequently to weigh it more heavily than if they had known it from the start. In the present context, we conjectured that people who pursue mood-relevant information would focus on the implications of that information in a subsequent decision more than those who had the same information all along. People who discover they are likely to be in a positive mood will focus on the precariousness of this condition, whereas those who find they are likely to be in a negative mood will focus on ways to repair it. In contrast, those who have not pursued mood-relevant information may give mood lesser consideration. In line with the preceding studies, we predicted greater preference for comedies when information highlighting either a good or bad mood had been pursued, compared to when the information had been available all along, rendering it less salient.

## Method

### *Participants*

One hundred sixty-one college students were paid \$10 each to complete this study along with other, unrelated tasks.

### *Conditions and dependent measures*

Participants were presented with a hypothetical scenario describing their schedule for the following day, which involved various work-related activities. Included in the day's plans was finding out how they did on a recent exam. At the end of that day, they purportedly planned to go with a friend to the theatre, and had to choose between two plays:

*Comedy:* A forgettable comedy consisting of silly banter, cheap laughs, and physical comedy. The people you know who have seen it critique its total lack of substance and originality. The show produces one or two laughs, but overall is a tired variation on an old theme.

*Drama:* A thoughtful and fascinating award-winning drama about the experience of a young social worker in a mental institution. This highly acclaimed work has been called a masterpiece for its ability to evoke in those who see it the same feelings of compassion and anguish as the social worker who is attempting to overcome the adversity faced by the less fortunate.

Participants were randomly assigned to one of four conditions. In the *known-good* condition ( $n = 37$ ), participants knew they had done well on the exam. In the *known-bad* condition ( $n = 42$ ) they knew they had done poorly. In the two *uncertain* conditions, information about the exam's outcome was not yet available, but would be known the following day before the scheduled theatre outing. Participants in those conditions could choose between the comedy and the drama without knowing the exam's outcome, or they could wait until the exam's outcome—which had clear implications for their mood—was known, before making their decision. Those who chose to wait subsequently received information (on the next page) that rendered the scenario identical to the corresponding certain version: Those in the *uncertain-good* condition ( $n = 41$ ) found out they had done well on the exam, whereas those in the *uncertain-bad* condition ( $n = 41$ ) found out they had done poorly.

As before, in the absence of mood salience, the comedy was designed to be less appealing than the drama, with occasional silly laughter being its only redeeming feature. In the *known* conditions, the exam's outcome was included in the description of the day's several other events and was thus likely to prove less salient. Not especially thinking of mood, the majority's preference was predicted to be for the superior drama. In contrast, people in the *uncertain* conditions—who were led to wait for mood-relevant information and to attend to its mood implications—were predicted to exhibit greater preference for the comedy, regardless of the information obtained.

### Results and discussion

By way of a manipulation check, we conducted a pretest designed to explore mood salience. Following presentation of the scenarios described above, a separate group of participants ( $N=75$ ) was presented with a word-fragment completion task. The task had them fill in the missing letter in each of ten words, seven of which could be completed with a mood-relevant or a neutral word (e.g., “J O \_” could be completed as “J O Y” or “J O B”; “M A \_” could be “M A D” or “M A N,” etc.). These fragments were adapted from Rusting and Larsen (1998), who found a correlation between momentary mood and performance on this task. As predicted, participants who waited to find out how they did on the exam completed more mood-relevant words than those who did not wait; 58% vs. 38%,  $\chi^2(1, N=320)=7.95, p<0.01$ , suggesting somewhat greater focusing on mood among those who waited. We expected this focus on mood to translate to greater preference for the comedic, compared to the dramatic, option.

Consistent with the notion that a greater focus on mood compels choosing the comedic option, a strong preference for comedies was observed among those participants who waited. In particular, among those who chose to wait and find out about the exam in the uncertain conditions, a full 69% then opted for the comedy. The increased tendency to opt for the comedic option following uncertainty yielded a substantial difference between the two groups, who otherwise faced identical choices: the comedy was chosen by only 25% of all respondents in the *known* conditions, and by 46% of all respondents in the *uncertain* conditions,  $\chi^2(1, N=161)=7.72, p<0.006$ .<sup>3</sup>

As summarized in Table 4, the patterns observed in the good and the bad mood conditions were very similar. Those in the *known-good* and *known-bad* conditions chose the comedy 24% and 26% of the time, respectively; whereas those in the *uncertain-good* and the *uncertain-bad* conditions chose the comedy 44% and 49% of the time ( $\chi^2(1, N=78)=3.29, p<0.07$ ; and  $\chi^2(1, N=83)=4.53, p<0.04$ , for the comparisons between the good and bad conditions, respectively). Among those who waited to find out about the exam in the uncertain conditions, 64% and 72% chose the comedy in the *uncertain-good* and the *uncertain-bad* conditions, respectively.

Table 4. Study 4: Choice of show in light of mood-relevant information

		Percentage of Subjects who Chose Comedy versus Drama	
		Choice	
		Comedy	Drama
Condition			
Known:	Good Mood ( $n=37$ )	24	76
	Bad Mood ( $n=42$ )	26	74
Uncertain:	Good Mood ( $n=41$ )	44	56
	a) <i>immediately</i>	22	44
	b) <i>after waiting</i>	22	12
	Bad Mood ( $n=41$ )	49	51
	a) <i>immediately</i>	17	39
	b) <i>after waiting</i>	32	12

Known Good versus Uncertain Good:  $\chi^2(1, N=78)=3.29, p<0.07$ .

Known Bad versus Uncertain Bad:  $\chi^2(1, N=83)=4.53, p<0.04$ .

Total Known versus Total Uncertain:  $\chi^2(1, N=161)=7.72, p<0.006$ .

<sup>3</sup>Note that a comparison including all participants—both those who waited and those who did not—avoids the potential bias that may result from focusing only on those who may be predisposed to wait for additional information; see Bastardi and Shafir, 1998, for further discussion.

The results of this study directly support the hypothesis that when people pay attention to mood they may find themselves choosing an option they would not have chosen otherwise. Whereas the majority of participants in the *known* conditions preferred the drama to the comedy regardless of how they had done on the exam, those who pursued the mood-relevant information were more likely to prefer the comedy, regardless of the exam's outcome.

As discussed by Bastardi and Shafir (1998, 2000), the decisions made following a search for information may be influenced by factors ranging from self-perception to the need to justify a delayed decision (cf. Bastardi & Shafir, 1998, 2000). Although these and other factors (such as greater vigilance) may have impacted our respondents' decisions, the observed patterns, supported by our manipulation checks and the agreement with the remaining studies, suggest that the decision to delay choice for the sake of mood-relevant information led to a greater focusing on mood, which in turn increased the popularity of the comedic, at the expense of the dramatic, option. As in Study 1, this tendency was slightly (but not significantly) stronger in the bad mood condition, as might be expected if fixing a bad mood receives more urgent attention than merely maintaining a good one.

## GENERAL DISCUSSION

The studies above examined the impact of thinking about mood, rather than the effects of mood itself. Apart from the effects that actual mood might have on thoughts or memories, what are the consequences of a heightened awareness of mood on people's choices? Earlier research has demonstrated that merely making something more salient can bias response and alter behavior. For instance, contemplating the purchase of an item or answering voting intent questions can influence purchase and voting behavior (Chapman, 2001; Greenwald, Carnot, Beach, & Young, 1987; Morwitz, Johnson, & Schmittlein, 1993); gauging attitudes toward products can increase attitude accessibility and impact behavior (Fazio, Powell, & Williams, 1989); and considering purely hypothetical questions can "plant" thoughts and influence behavior, even when the questions' contaminative effects are outside of awareness (Fitzsimons & Shiv, 2001).

The four studies above support the hypothesis that attending to mood can have a marked effect on ensuing choices. Imagining a hypothetical mood (Study 1), introspecting about one's actual mood (Studies 2 and 3), or merely pursuing mood-relevant information (Study 4) were all seen to increase preference for comedies over dramas. The more mood is salient, the more attractive are alternatives that promise to maintain a positive mood or repair a negative one.

Remarkably, preference for comedies seems to hold regardless of which mood is made explicit. This is reminiscent of a *disjunction effect* (see Tversky & Shafir, 1992), wherein preference under uncertainty is inconsistent with preferences observed no matter how the uncertainty is resolved. In Study 1, for instance, participants in the "no mood" condition were presumably in either good, bad, or "neither good nor bad" moods. Nevertheless, all three mood groups were more positively inclined toward comedies than the no mood group, suggesting that merely making mood salient—whether it is good, bad, or neutral—has a similar impact on choice. The same logic applies to Study 4, where learning of the exam's outcome—regardless of whether it was good or poor—inclined decision makers more toward the comedies.

The observed patterns are also consistent with analyses of reason-based choice (Shafir, Simonson, & Tversky, 1993), which have argued that in situations that are clear, people often rely on compelling reasons for choosing an option, compared to when situations are less clear and reasons are uncertain. When they do not focus on how they feel, people are inclined to base their choices on a multiplicity of other factors. Once mood is highlighted, mood-regulation considerations provide apparently compelling rationales that come to weigh heavily on the decision, particularly when the options appear directly relevant to mood.

This effect is similar to a *focusing illusion*, where the particular aspect of a choice that people attend to is overweighed relative to other, unattended aspects (Schkade & Kahneman, 1998). For instance, participants in

one study expected Californians to be more satisfied with life overall than Midwesterners, even though no such self-reported difference in life satisfaction ratings was actually found (Schkade & Kahneman, 1998). Because weather is a salient and distinctive point of differentiation between those locations, the relative advantages of warmer weather become the focus of evaluation, and the effect of climate is thereby exaggerated. Similarly, when mood is a salient feature, hedonic considerations appear to loom large in the ensuing decision.

In a follow-up to Study 1, we asked participants why they picked the movie they did. The most popular reason for choosing comedies in the no mood condition did not appeal to mood: "I just like comedies better." In the three mood-salient conditions, the most popular reasons for choosing comedies were "I felt I needed a laugh" and "To improve my mood." A related pattern was found in a test of strategic mood regulation by Josephson et al. (1996), who had individuals write down either a positive or a negative memory after watching a film clip. The participants were then asked to write down a second memory. Sixty-eight percent of participants who recalled a positive memory after a negative one (compared to 0% among those who followed a negative memory with another negative one) cited a desire to change their negative moods as the reason they chose a positive memory.

One interpretation of this finding is that, for non-depressed individuals, simply calling attention to mood may have cued the opportunity to choose an option appropriate for repairing one's affective state, particularly when such a mood-enhancing option was readily available. Indeed, one possible limitation to our work is that in all of the studies we present, the available alternatives had obvious hedonic consequences. It remains unclear what options people would seek out when choices with clear and immediate hedonic effects are not as easily accessible.

Clearly, mood management is unlikely to boil down to a heuristic as simple as "always recall positive memories," or "always choose comedies." However, once mood is rendered salient, it appears that people are more likely to engage in mood regulation. Future research will tell when people are motivated by attempts to improve their mood, when they are avoiding activities that might threaten it, and whether there is a systematic difference between the two processes. In fact, a recent theoretical integration has been proposed that specifies how affective evaluation and affect regulation processes interact to guide behavior (Andrade, *in press*).

Interestingly, even affective states that have the same valence can influence decisions in different ways. Although anxiety and sadness are both negative affective states, people in anxious moods apparently prefer low-risk/low-reward gambles more than those in sad moods, who lean toward high-risk/high-reward options (Raghunathan & Pham, 1999). People may draw different inferences from different affective states of similar valence, which in turn may lead to alternate courses of action. In one study, participants who attributed a negative mood to personal failure were more likely to choose to volunteer at a soup kitchen than to spend a day at the amusement park, compared to others who attributed a negative mood to factors outside their control (Caruso, 1998). Such results highlight the distinctions discussed earlier between actually experienced affective states, which trigger a host of motivational and behavioral tendencies, and subjective beliefs about those affective states, which may lack the introspective insight to foresee the nuanced responses.

The patterns documented above also highlight a potential distinction between automatic and controlled processes evoked by emotion. Mood-congruent memories and thoughts seem to be activated automatically and outside of conscious awareness. Once mood is made salient, it provides apparent information about a person's current state, and might lead the person to act on the information in the form of mood regulation. As Morris and Reilly (1987) explain, "rather than falling prey to automatic processes that lead us toward gloomy assessments and dispirited behavior, we can strategically elect actions designed to improve our bad moods or, at least, to keep them from getting worse" (p. 223). Tice, Bratslavsky, and Baumeister (2001) argue that when people are upset and believe that their moods are changeable, they engage in local mood management that amounts to giving short-term considerations priority over other, long-term goals. Mood "recovery" may benefit from recognizing a "problem" when mood is made explicit, but as the current findings suggest, the road to recovery may be strewn with questionable choices.

The observed choices of otherwise “inferior” comedies suggest that people may pay a price for their overweighing of mood as the basis for decision. Future research will need to determine whether basing decisions on considerations of mood (as when picking a silly comedy over a superior drama) is likely to result in greater post-decision satisfaction either in the short- or the long-term. Existing research on anticipated and experienced well-being suggests this might not generally be the case (Gilbert & Wilson, 2000; Loewenstein & Schkade, 1999). In this sense, choices based on mood might yield “misregulation,” by promoting decisions that may ultimately prove ineffective (Baumeister, Heatherton, & Tice, 1994). In fact, those most anxious to improve or maintain mood might be those who are most compelled to make a short-term decision that is detrimental in the long-term. It has been shown, for example, that bad mood among dieters and anxiety in obese people can cause them to eat more (Greeno & Wing, 1994; Slochower & Kaplan, 1980). Expectations regarding the impact of future experiences are similarly unreliable. We often are unable to predict how happy an experience will make us (e.g., Gilbert & Wilson, 2000), and are often miscalibrated about what we will want or do when experiencing particular moods or feelings (Gilbert, Gill, & Wilson, 2002; Loewenstein, 1996; Loewenstein & Schkade, 1999).

Note again that the present mood manipulations were not meant to affect participants’ actual emotions. Even in Studies 2 and 3, the real moods elicited were naturally occurring and likely to be rather mild. It is possible that other (e.g., mood-congruent) behaviors might emerge when participants experience powerful emotions. That notwithstanding, merely calling attention to mood appears to alter people’s decisions. The potential discrepancy between mood-dependent preferences on the one hand, and preferences expressed on the basis of anticipated moods on the other, is likely to lead to systematic errors in planning, forecasting, and the attempt to maximize well-being. Such a discrepancy serves also to highlight a general methodological subtlety for studies of emotion, namely, the need to distinguish the effects of specific mood manipulations from the general impact of simply making mood salient. While it is widely recognized that mood can influence people’s decisions, it appears that merely thinking about their own mood can influence, if not derail, the decisions of those attempting to regulate mood through their choices of experience.

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#### REFERENCES

- Andrade, E. B. (in press). Behavioral consequences of affect: combining evaluative and regulatory mechanisms. *Journal of Consumer Research*.
- Bastardi, A., & Shafir, E. (1998). On the pursuit and misuse of useless information. *Journal of Personality and Social Psychology*, 75, 19–32.
- Bastardi, A., & Shafir, E. (2000). Nonconsequential reasoning and its consequences. *Current Directions in Psychological Science*, 9, 216–219.
- Baumeister, R. F., Heatherton, T. F., & Tice, D. M. (1994). *Losing control: How and why people fail at self-regulation*. San Diego, CA: Academic Press.
- Berkowitz, L., Jaffee, S., Jo, E., & Troccoli, B. T. (2000). On the correction of feeling-induced judgmental biases. In J. P. Forgas (Ed.), *Feeling and thinking: The role of affect in social cognition* (pp. 131–152). Cambridge: Cambridge University Press.
- Bettman, J. R., Luce, M. F., & Payne, J. W. (1998). Constructive consumer choice processes. *Journal of Consumer Research*, 25, 187–217.

- Bower, G. (1981). Mood and memory. *American Psychologist*, *36*, 129–148.
- Caruso, E. M. (1998). *Toward a unification of mood-congruency and cognitive theories of emotion: The effects of mood salience on the self-regulation of moods*. Unpublished undergraduate thesis, Princeton University, Princeton, NJ.
- Chapman, K. J. (2001). Measuring intent: there's nothing "mere" about mere measurement effects. *Psychology and Marketing*, *18*, 811–841.
- Cialdini, R. B., Darby, B., & Vincent, J. (1973). Transgression and altruism: a case for hedonism. *Journal of Experimental Social Psychology*, *9*, 502–516.
- Duval, S., & Wicklund, R. A. (1972). *A theory of objective self-awareness*. New York: Academic Press.
- Fazio, R. H., Powell, M. C., & Williams, C. J. (1989). The role of attitude accessibility in the attitude-to-behavior process. *Journal of Consumer Research*, *16*, 280–288.
- Fitzsimons, G. J., & Shiv, B. (2001). Nonconscious and contaminative effects of hypothetical questions on subsequent decision making. *Journal of Consumer Research*, *28*, 224–238.
- Gasper, K., & Clore, G. L. (2000). Do you have to pay attention to your feelings to be influenced by them? *Personality and Social Psychology Bulletin*, *26*, 698–711.
- Gilbert, D. T., Gill, M. J., & Wilson, T. D. (2002). The future is now: temporal correction in affective forecasting. *Organizational Behavior and Human Decision Processes*, *88*, 430–444.
- Gilbert, D. T., & Wilson, T. D. (2000). Miswanting: some problems in the forecasting of future affective states. In J. Forgas (Ed.), *Thinking and feeling: The role of affect in social cognition* (pp. 178–197). Cambridge: Cambridge University Press.
- Greeno, C. G., & Wing, R. R. (1994). Stress-induced eating. *Psychological Bulletin*, *115*, 444–464.
- Greenwald, A. G., Carnot, C. G., Beach, R., & Young, B. (1987). Increasing voting behavior by asking people of they expect to vote. *Journal of Applied Psychology*, *2*, 315–318.
- Isen, A. M. (2000). Positive affect and decision making. In M. Lewis, & J. Haviland-Jones (Eds.), *Handbook of emotions* (2nd ed., pp. 417–435). New York: Guilford.
- Isen, A. M., Shalker, T. E., Clark, M., & Karp, L. (1978). Affect, accessibility of material in memory, and behavior: a cognitive loop? *Journal of Personality and Social Psychology*, *36*, 1–12.
- Josephson, B. R., Singer, J. A., & Salovey, P. (1996). Mood regulation and memory: repairing sad moods with happy memories. *Cognition and Emotion*, *10*, 437–444.
- Leventhal, H. (1980). Toward a comprehensive theory of emotion. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 13, pp. 139–207). New York: Academic Press.
- Loewenstein, G. (1996). Out of control: visceral influences on behavior. *Organizational Behavior and Human Decision Processes*, *65*, 272–292.
- Loewenstein, G., & Schkade, D. (1999). Wouldn't it be nice? Predicting future feelings. In D. Kahneman, E. Diener, & N. Schwarz (Eds.), *Well-being: The foundations of hedonic psychology* (pp. 85–105). New York: Russell Sage Foundation.
- McFarland, C., & Buehler, R. (1997). Negative affective states and the motivated retrieval of positive life events: the role of affect acknowledgment. *Journal of Personality and Social Psychology*, *73*, 200–214.
- Morris, W. N., & Reilly, N. P. (1987). Toward the self-regulation of mood: theory and research. *Motivation and Emotion*, *11*, 215–249.
- Morwitz, V. G., Johnson, E., & Schmittlein, D. (1993). Does measuring intent change behavior? *Journal of Consumer Research*, *20*, 46–61.
- Pham, M. T. (1998). Representativeness, relevance, and the use of feelings in decision making. *Journal of Consumer Research*, *25*, 144–159.
- Pham, M. T. (2004). The logic of feeling. *Journal of Consumer Psychology*, *14*, 360–369.
- Raghunathan, R., & Pham, M. T. (1999). All negative moods are not created equal: motivational influences of anxiety and sadness on decision making. *Organizational Behavior and Human Decision Processes*, *79*, 56–77.
- Redelmeier, D., Shafir, E., & Aujla, P. (2001). The beguiling pursuit of more information. *Medical Decision Making*, *21*, 376–381.
- Robinson, M. D., & Clore, G. L. (2002). Belief and feeling: evidence for an accessibility model of emotional self-report. *Psychological Bulletin*, *128*, 934–960.
- Rothkopf, J. S., & Blaney, P. H. (1991). Mood congruent memory: the role of affective focus and gender. *Cognition and Emotion*, *5*, 53–64.
- Rusting, C. L., & Larsen, R. J. (1998). Personality and cognitive processing of affective information. *Personality and Social Psychology Bulletin*, *24*, 200–213.
- Schkade, D. A., & Kahneman, D. (1998). Does living in California make people happy? A focusing illusion in judgments of life satisfaction. *Psychological Science*, *9*, 340–346.
- Schwarz, N. (1990). Feelings as information: informational and motivational functions of affective states. In E. T. Higgins, & R. M. Sorrentino (Eds.), *Handbook of motivation and cognition: Foundations of social behavior* (Vol. 2, pp. 527–561). New York: Guilford.

- Schwarz, N., & Clore, G. L. (1983). Mood, misattribution, and judgments of well-being: informative and directive functions of affective states. *Journal of Personality and Social Psychology, 45*, 513–523.
- Schwarz, N., & Clore, G. L. (1988). How do I feel about it? Informative functions of affective states. In K. Fiedler, & J. Forgas (Eds.), *Affect, cognition, and social behavior* (pp. 44–62). Toronto: Hogrefe International.
- Shafir, E., & LeBoeuf, R. A. (2004). Conflict and context in multiattribute choice. In D. Koehler, & N. Harvey (Eds.), *Blackwell handbook of judgment and decision making* (pp. 341–359). Oxford: Blackwell.
- Shafir, E., Simonson, I., & Tversky, A. (1993). Reason-based choice. *Cognition, 49*, 11–36.
- Shiv, B., & Fedorikhin, A. (1999). Heart and mind in conflict: the interplay of affect and cognition in consumer decision making. *Journal of Consumer Research, 26*, 278–292.
- Siemer, M., & Reisenzein, R. (1998). Effects of mood on evaluative judgments: influence of reduced processing capacity and mood salience. *Cognition and Emotion, 12*, 783–805.
- Slochow, J., & Kaplan, S. P. (1980). Anxiety, perceived control, and eating in obese and normal weight persons. *Appetite, 1*, 75–83.
- Slovic, P. (1995). The construction of preference. *American Psychologist, 50*, 364–371.
- Snedecor, G. W., & Cochran, W. G. (1967). *Statistical methods* (6th ed.). Ames: Iowa State University Press.
- Tice, D. M., Bratslavsky, E., & Baumeister, R. F. (2001). Emotional distress regulation takes precedence over impulse control: if you feel bad, do it! *Journal of Personality and Social Psychology, 80*, 53–67.
- Tversky, A., & Kahneman, D. (1986). Rational choice and the framing of decisions. *Journal of Business, 59*, 251–278.
- Tversky, A., & Shafir, E. (1992). The disjunction effect in choice under uncertainty. *Psychological Science, 3*, 305–309.
- Wegener, D. T., & Petty, R. E. (1994). Mood management across affective states: the hedonic contingency hypothesis. *Journal of Personality and Social Psychology, 66*, 1034–1048.
- Zillman, D. (1988). Mood management: using entertainment to full advantage. In L. Donohew, H. Sypher, & E. T. Higgins (Eds.), *Communication, social cognition, and affect* (pp. 147–172). Hillsdale, NJ: Erlbaum.

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