Emotion and Social Judgments

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It is a special pleasure to speak to this audience of people working in the Congress and governmental agencies regarding some of the research on emotion and social perception. I can imagine that you are often on the hot-seat in high-pressured conflicts, making important decisions that affect many lives, having to deal with continual battles over limited resources, with passionate appeals, complaints, threats, and criticisms from the public. Perhaps my talk today, about how much our emotions and passionate interests influence our thoughts and judgments, will help you understand a little better some factors that cause different, well-meaning people nonetheless to view issues so very differently. It may also help you understand some reasons that we vacillate considerably in evaluations of ourselves, our careers, our past, and our future prospects in life.

The research I will review has been conducted by many psychologists besides myself and my associates, and I will cite them as appropriate. Almost all of the research has been supported by governmental grants; in my own case, my research has been supported by NIMH grants. The information gathered can be viewed as one of the pay-offs from the national investment in these projects.

The Experimental Setting

I will be discussing experiments in which normal volunteers are induced to feel a mild emotion like happiness, sadness, or anger for a brief time, and we then look at how those feelings affect their memory or thinking. The mood inductions include things like showing people happy or sad movies, playing happy or sad music, getting them to read or imagine happy or sad scenes, or arranging for them to succeed or fail at some task. The mood inductions are often subtle, mild, and their purpose is usually disguised. The memory or judgment tasks are then introduced as though they are a completely separate and unrelated study; we do this in order to prevent subjects from consciously biasing their responses according to their ideas about how emotion might relate to
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judgment. When I refer to happy or sad people in the following experiments, I will usually be referring to normal individuals (typically college students) who have been randomly assigned to experimental conditions in which they have experienced a happy or sad mood induction.

Emotion and Memory.

As early as 1976, I became interested in mood effects on social judgment while studying the impact of various emotional states on memory (Bower et al., 1978; Bower, 1981). Since these memory effects probably play a central role in biasing judgments, I will briefly tell you about them. We were finding two effects -- one called "mood-dependent retrieval," and the other "mood-congruent processing." After describing these two memory effects, I will discuss mood effects on judgments.

Mood-Dependent Retrieval.

Mood-dependent retrieval refers to the idea that a person's emotional state can become associated with on-going events, so that the events and the emotion are stored in memory together. Later those memories can be best retrieved if the person returns to an emotional state similar to that experienced during the original event. Thus, when made happy, people should do better recalling events experienced earlier when they were happy; when sad, they should more easily recall events they experienced when they were sad.

Our earlier demonstrations of mood-dependent retrieval stimulated considerable research exploring the conditions contributing to the phenomenon. A relatively recent demonstration, for example, was reported by Eric Eich and Janet Metcalfe (1989). They induced their college-aged subjects to feel happy or sad by having them think happy or sad thoughts while listening to happy or sad music for awhile. The subjects then generated 16 words which they were to memorize (e.g., "name a flower that begins with R--- ROSE"). Upon returning the next day, half the subjects listened to different music selected to put them in the same mood as that experienced the day before while the
other half the subjects listened to music that put them in the opposite mood to that experienced the day before. They then tried to recall the words they had learned the day before, with the results shown in Figure 1.

The subjects who learned and recalled in the same mood (happy or sad both days) recalled more than those whose mood was shifted between learning and later testing. Mood during learning or mood during testing had little overall impact; rather, the important factor for recall here was the matching or mismatching of the moods during learning and recall testing. The matching of moods apparently aids recall of events experienced earlier in that mood.

Mood-dependent retrieval applies to people's recall of autobiographic events as well as word lists in a laboratory. When asked to recall an unselected sample of autobiographic events from their recent past, people will retrieve a biased set of events that agree with their emotional state during recall. An experiment by Mark Snyder and Phyllis White (1982) illustrated this mood dependency in autobiographic reports. They first induced their college-student subjects to feel happy or sad by having them imagine themselves experiencing a series of either very happy feelings and thoughts or very sad feelings and thoughts. A few minutes later as part of an apparently unrelated experiment, the subjects were asked to recall any autobiographic events from the past two weeks. Figure 2 shows that when they were happy, people retrieved relatively more happy episodes; when they were sad, they retrieved relatively more unpleasant or sad episodes from their lives.

Clinical psychologists have noted a similar bias when depressed patients recall events from their childhood. When depressed, they are more likely to recall an unhappy, deprived childhood; after their depression passes, they recall a far rosier childhood. These observations can be explained by the simple idea that the emotion a person is feeling becomes associated in memory with events that caused that emotion, so that later reinstatement of the emotion will aid retrieval of those memories.
Mood-congruent Memory

Our second finding (Bower, 1981; 1983) was mood-congruent processing which means that people become selectively sensitized to take in information that agrees with their prevailing emotional state. Mood-congruent material becomes more salient so that people attend to it more and think about it more deeply with greater associative elaboration, and as a result they learn it better. Thus, when happy, people will attend and respond more to pleasant parts of their environment and learn more about them; when sad, they'll attend and respond more to its unpleasant parts and learn more about them.

Such mood-congruent learning can be illustrated by an experiment done in my lab with a former student, Steve Gilligan (1982). Subjects were hypnotized and put into a happy, angry, or sad mood. They were then read 36 three-line descriptions of hypothetical events in which they were to imagine themselves. A third of these were happy events, such as unexpectedly finding a $20 bill on the sidewalk; a third were sad events, such as experiencing the death of a pet; and a third were anger-provoking events, such as having someone cut in line in front of you, causing you to miss your bus. Each event was described and imagined for 10 seconds. After having imagined the 36 events, the subjects' moods were removed and 5 minutes later they were unexpectedly asked to free recall as many of the 36 events as they could.

The results in Figure 3 show recall of the three types of events by the subjects who had been feeling happy, angry, or sad during learning. There's a mood-congruent advantage: people who were happy during the initial experience learn the happy events better; angry people learn anger-provoking events better; and sad people learn sad events better. I remind you that these people are recalling when in a neutral mood, so the differences in their recall is reflecting differences in original learning. Of course, these differences would also be present, even exaggerated, if the same mood had been present during both initial registration and later retrieval. Although these results
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illustrate mood-congruent learning only under laboratory-induced moods, available
evidence also suggests that such selective learning also appears with naturally occurring
variations in everyday moods (Mayer et al., in press).

**Emotional Influences on Associative and Attentional Biases**

An implication of mood congruent processing is that when an emotion is
aroused, it brings to mind the words, concepts, themes, and inferences that have been
associated with that emotion; these are primed into readiness and made highly available
for use. The easy availability of these emotionally-congruent associations, perceptual
categories and themes leads people to perceive and interpret the social world in such a
way that it appears to confirm their feelings. Those interpretations will also perpetuate
the person's emotional state --- something we might call "mood perseverance." I will
now describe several of these influences.

**Free Associations.**

As a first example of this emotional priming, we found that people give word
associations that are pleasant or unpleasant according to whether they are feeling
happy or sad (Bower, 1981). Thus, to a word like LIFE, happy subjects will give
associates such as freedom and love, whereas sad subjects will associate to LIFE with
words such as death and struggle. As a second example, when asked to name the first
kind of weather that comes to mind beginning with the letter S____, happy subjects are
likely to say SUNNY or SPRINGTIME, whereas sad subjects are likely to say STORMY or
SNOWY (Mayer, et al., 1992). Happy people also report that richer, more vivid
associations and images are stimulated by pleasant words, such as KITTEN, than by
unpleasant words, such as SURGERY, whereas sad subjects report just the opposite

A further illustration of this associative bias is that when emotional people
daydream or make up stories about fictional characters on the Thematic Apperception
Test, they make up stories congruent with their current feelings (Bower, 1981): happy
people often concoct stories about success and romance; sad people make up stories about failure and loss; and angry people make up stories about conflicts and fights. So people's feelings prompt associated themes that are then revealed in the stories they make up.

**Mood-Congruent Preferences.**

The priming theory suggests that people will tend to dwell on or even prefer mood-congruent situations, people, and things that confirm their current feelings. These preferences show up in several different behaviors.

**What's Interesting?** An early illustration of mood-congruent interest arose in an experiment by my student, Colleen Kelley (1982). She induced happy or sad feelings in college students by having them write about some happy or sad experiences from their lives. Thereafter, as part of a second experiment, they were asked to examine a series of slides of scenes, going at their own pace, dwelling on each scene according to its intrinsic interest for them. The slides were a random mixture, half were happy scenes (people laughing, playing, celebrating victories) and half were sad scenes (failures, rejections, funerals, and the aftermath of disasters).

Unknown to the subjects, Kelly recorded how much time they spent looking at the different types of pictures. She found a mood-congruity effect in the average time subjects spent viewing the pictures. If viewers were happy, they spent more time looking at happy rather than sad scenes; conversely, if they were sad, they spent more time looking at sad rather than happy scenes. Curiously, subjects were not aware that they were attending more to the pictures that matched their mood. This result illustrates how we are unwittingly attracted to just those scenes that agree with our current mood. This difference in exposure time also led to a difference in later recall of the pictures. Happy viewers recalled more happy scenes; sad viewers recalled more sad scenes.
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Some unpublished experiments by Mark Snyder (personal communication, 1990) also found mood-congruent preferences. His subjects indicated their preferred selections from briefly-described movie film clips which they thought they would be reviewing as part of a consumer survey. Subjects made temporarily depressed chose to look at more somber, serious films than did subjects made temporarily happy. In another similar experiment, Snyder found that sad subjects also chose to listen to more sad, nostalgic music than did happy subjects.

Activity Preferences. In line with such results, temporarily sad people cannot think of very many activities that they consider to be "pleasant"; they generally rate most activities as far less enjoyable than do happy people. Snyder also asked his subjects how much time they intended to spend in various activities in the coming weeks. Happy subjects said they planned to spend more time in light-hearted, enjoyable activities; on the other hand, sad subjects said they planned to spend more time in somber, serious, and solitary activities.

Socializing. The loss of interest in social activities is a familiar symptom of the depressed person. Similarly, several studies have found that when nondepressed people are made temporarily sad, they lose interest in socializing, finding other people far less rewarding or "attractive." We may explain this result by supposing that people's happy or sad mood alters their expectations of gaining rewards versus punishments from interactions, and the balance of those expectations either attracts or repels the person towards socializing with others.

Social Preferences. Further evidence of mood-perseverance is that people prefer to affiliate and learn more about others who share their current mood. Most of us most of the time prefer the company of happy people and avoid the company of depressed people, but that may be because we're usually in a moderately good mood.

On the other hand, sad people have somewhat different preferences. As one illustration, Fred Gibbons (1986) observed that temporarily sad people seek out more
information about sad, unfortunate people than about happy people. Moreover, when forced to socialize, depressed people prefer to meet and become better acquainted with unfortunate, unhappy people rather than happy people (Wenzlaff & Prohaska, 1989).

Surprising as it seems, people who are feeling depressed get more satisfaction from socializing with others who are similarly depressed. This result was shown in an experiment by Ken Locke and Len Horowitz (1990). They assigned college-student strangers to same-sex pairs, and asked them to take turns telling one another their opinions regarding a series of personal topics, and to privately rate their liking for the other person as the conversation proceeded. The two students of a pair had been pre-selected to be either both dysphoric (mildly depressed), both nondysphoric, or only one member dysphoric. As their conversational turns proceeded, the students whose moods matched one another reported progressively more liking for their partner and satisfaction with the interaction. But students in mixed-mood pairs reported progressively less satisfaction and less warmth for their partner. Moreover, as time went on, the mismatched pairs chose to talk about progressively more negative topics. The conclusion is that depressed people prefer to spend time with others who have similar concerns and are in a similar mood. This illustrates the old adage, “Misery loves company.”.

A dramatic demonstration of this selective exposure to mood-congruent people was provided in experiments by Bill Swann and his associates (Swann, et al., 1992a, 1992b). They studied college students who had been classified as depressed or nondepressed according to an earlier personality test. After being brought to the laboratory, these students read three different, brief evaluations of themselves supposedly written by clinical-psychology trainees who had examined different parts of the subject’s answers to a personality test taken several days earlier. In fact, the
experimenters composed bogus evaluations so that one was relatively positive, one neutral, and one relatively negative about the subject's personality.

After reading these sample evaluations, subjects were asked to rate which of these three evaluators they would most like to meet and get acquainted with. The results are shown in Figure 4. Non-depressed subjects most wanted to meet and get acquainted with the positive evaluator who had the flattering opinion of them, and they wanted nothing to do with their negative evaluator. In contrast, depressed subjects said they most wanted to meet and get acquainted with their negative evaluator, the one person who had found the most faults in them and who they could be certain would have an unfavorable opinion about them. This is reminiscent of the script called "Kick me, please" that depressives often use and it is guaranteed to perpetuate their mood.

Social Comparisons. Similar tactics of mood-perpetuation are also seen in the social comparisons that people choose to make -- that is, the folks with whom they choose to compare themselves. A common belief is that people will often compare themselves to others who are in worse circumstances, so they'll come off favorably, thus enhancing self-esteem. But people's comparisons turn out to be partly controlled by their mood state.

In a study by Ladd Wheeler and Kunitate Miyake (1992), college students recorded details of all their social comparisons over a two-week period. Whenever they noticed themselves comparing themselves to someone else, subjects were to record the details, including how they felt just before they thought of this comparison, who they were comparing themselves to, what personal attributes were compared, and how they felt after making the comparison. One interesting finding was that the more depressed the students were, according to their scores on the Beck Depression Inventory, the more frequently they compared themselves to people who they judged to be better than themselves. These cases are called "upward" comparisons and they increase significantly
in depression. Moreover, regardless of their personality score, the sadder subjects were feeling at the moment a comparison was made, the more likely they were to make an upward comparison, to someone better off; the happier they were feeling, the more likely they were to make a downward comparison, to someone worse off than themselves. Thus, the direction of a social comparison -- whether to someone considered superior or inferior -- was partly determined by momentary fluctuations in a person's mood.

Wheeler and Miyake also reported that the direction of a comparison caused the person's momentary mood to change in the opposite direction: that is, upward comparisons to someone perceived as better caused a worsening of one's mood, whereas downward comparisons to others worse off caused people to feel better.

Such results suggest that people tend to think about those social comparisons that are likely to perpetuate or exacerbate their mood. In particular, momentarily sad people tend to ruminate on those very thoughts and comparisons that are guaranteed to make them even more depressed. Moreover, people who score high on the Beck Depression scale may sometimes make a habit out of such depressing comparisons; in doing so, they have fashioned a cognitive lifestyle that is likely to keep them down in the dumps.

To summarize, the experiments I have been reviewing demonstrate that, depending on their mood, people tend to become interested in or attracted to those activities, people, stories, movies, and music that are "in tune" with their mood. This bias seems to occur with temporarily induced moods as well as with longer-term, dispositional disorders such as depression. Furthermore, people behave in accordance with their desire for more or less exposure to such situations. The congruity between the mood and the situations individuals choose to enter then causes their present mood to be sustained.
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**Persuasive Impact of Messages.** These results on selective exposure are bolstered by further results showing that even when people are forced to be exposed to some social information, its impact on them depends on whether it agrees with their mood. In 1987, Joe Forgas and I reported this congruence effect for subjects who had been induced to feel happy or sad before they read descriptions of a stranger and formed an impression of him. The subjects sat before a computer terminal and presented themselves with a series of statements, each statement describing some favorable or unfavorable behavior of the stranger. Figure 5 shows how long subjects took to read and think about the positive versus the negative aspects of the stranger.

Two conclusions are warranted. First, subjects in a sad mood took longer than those in a happy mood to read and form impressions; this is a common finding. Second, subjects in a happy mood dwelt longer on positive aspects of the stranger; subjects in a sad mood dwelt longer on his negative aspects. As you might expect, subjects in a good mood ended up with a more favorable impression of the stranger. Moreover, subjects' later memory for the stranger's behaviors showed mood congruence: subjects in a good mood remembered more of his positive attributes; subjects in a sad mood remembered more of his negative attributes.

**Job Interviews.** In that experiment, subjects formed an impression based solely on verbal descriptions of a stranger who they never actually met. Robert Baron (1987) had his subjects develop an impression during a face-to-face interview with a stranger. Using bogus feedback about their ability, Baron first induced his subjects to feel mildly happy, neutral, or sad. Each subject then conducted a face-to-face interview with a person who was supposedly applying for a middle-management job, asking him a list of pre-arranged questions in a structured interview. In fact, the applicant was a confederate who gave the same canned answers to each interviewer -- answers that were deliberately mixed and ambivalent.
After the interview, the interviewer-subject rated the job applicant on several traits. As expected, compared to neutral interviewers, happy interviewers rated the candidate as more motivated, talented, likable, attractive, and having greater potential for the job. They also said they would hire him. In contrast, the momentarily depressed interviewers rated the applicant considerably worse on all dimensions and were fairly sure they would not hire him.

Baron also tested his interviewers for their later recall of the confederate's canned answers. Recall showed mood congruity: happy interviewers recalled more of the positive things the applicant had said about himself; depressed interviewers recalled more of the negative things he had said about himself. Such studies show that in a realistic setting, mood biases could significantly affect hiring decisions and the careers of the people and institutions involved.

The experiments just reviewed make the point that mood increases people's absorption in information that agrees with their mood. One implication of these studies is that the impact of a persuasive message in changing a person's opinion depends on how its information matches up with his or her mood. There's several demonstrations of that fact in the literature on attitude change, but time limits do not permit my reviewing them.

**Mood Congruence in Evaluations**

Another implication of the mood-congruity idea is that people's mood will influence their momentary evaluation of their possessions and their opinions about all manner of things. Basically, a prevailing mood should prime and make more available those features of a topic (person, group, object) that agree with the mood.

**Personal Possessions.** As an early demonstration of this bias, Alice Isen and her associates (Isen et al., 1978) found that pedestrians in a shopping mall who received a small gift that pleased them, such as a fingernail clipper, reported on an unrelated
survey a few minutes later that their cars and television sets were working better than
people who had not received that small gift.

\textit{Life Satisfaction}. A similar effect was reported by Joe Forgas and Stephanie Moylan
(1987) who interviewed nearly a thousand patrons in cinema lobbies before or after
their seeing films judged to arouse predominately happy or sad feelings. In the guise of
a public-opinion survey completed just before or after the movie, patrons took about a
minute to rate their mood and their satisfaction with several controversial political
figures, the likelihood of several future prospects, satisfaction with their personal and
work situations, and their opinion about the severity of penalties handed out for various
anti-social crimes such as drunk driving and heroin trafficking. The results showed that
the happy films increased people’s satisfaction with political figures, with their own life,
career, and their future prospects, whereas sad films lowered their satisfaction on all
these issues. For example, people who had seen a comedy like "Back to the Future"
were more satisfied with their life, more optimistic about their future, and more
favorable to their politicians than were filmgoers who had just seen a profoundly
saddening film such as "The Killing Fields." or "Terms of Endearment". Also, people
who’d just seen a Rambo-type violent film were more likely to recommend very severe
punishments for heroin traffickers and other such criminals.

\textit{Health Evaluations}. People’s moods also affect their reports about their physical
health and their medical history. A study by Peter Salovey and Deborah Birnbaum
(1989) found that people made to feel temporarily sad as they filled out a medical
history reported far more past illnesses, more frequent chronic symptoms
and complaints, and poorer health than did subjects in a neutral mood. That bias may
be reflecting how much a sad mood increases recall of times when one felt sick.

Beyond that, however, mood also influences people’s perception or appraisal
of their current health status, as indicated by the number of physical complaints from
people who are slightly ill. Salovey and Birnbaum also found such appraisal biases in a
study of Yale students. Students who currently had a bad cold or the flu were first
made to feel happy, sad, or neutral by having them recall a happy, sad, or
neutral episode from their lives. They then rated the severity of aches, pains, and
discomfort from their current cold. As expected, compared to neutral controls,
temporarily sad subjects rated their cold symptoms as considerably more painful
and discomforting, whereas happy subjects rated their symptoms as less painful and
discomforting. This bias could be significant in medical practice since physicians'
diagnoses depend to some extent upon patients’ appraisal of the severity of
the symptoms they report.

Salovey and Birnbaum also had subjects rate their vulnerability to future
illnesses and whether they thought alleged health-promoting behaviors would be
effective in preventing those illnesses. Here, too, subjects showed mood-congruent
changes. For example, temporarily sad subjects felt they were destined to have many
health problems in the future, and there was little they could do to prevent these
illnesses or alleviate their severity once they happened. Such pessimism is significant
for personal health practices since it spawns defeatist, fatalistic attitudes, that one
gains no health benefits from quitting smoking, reducing alcohol consumption, losing
weight, reducing blood pressure and cholesterol levels. Such fatalistic attitudes also
reduce sick patients’ adherence to long-term medication or treatment plans. Such non-
compliance just exacerbates the medical problem and increases patients’ depression.

Forecasting the Future. So we see that people’s moods affect not only their evaluation
of their past and present circumstances but also their judgments about the likelihood
of future events. In a direct assessment of these effects, Bill Wright and I (1992)
induced a happy or sad mood in subjects and then had them estimate the likelihood of
a variety of future events: half were blessings such as world peace or finding a cure for
cancer; half were disasters such as being injured in a car accident or there being a major
melt-down at a nearby nuclear power plant. The results in Figure 6 show strong mood
biases. Relative to neutral-mood controls, people when happy raised their subjective probability estimates of future blessings and lowered their estimates of future disasters. On the other hand, sad subjects did just the reverse; they raised their probability estimates for disasters, and lowered their estimates of the likelihood of blessings.

Here, then, is the optimism of the happy person and the pessimism of the depressed person. We can explain such biases by noting that people estimate subjective probabilities by gauging the ease with which evidence supportive of an event comes to mind (the "availability heuristic" of Tversky & Kahneman, 1974). According to mood-congruity, then, people who are sad will think of more facts and ideas associated with a pessimistic outcome, whereas happy people will think of more pleasant facts consistent with an optimistic outcome. So the ease with which positive versus negative evidence comes to mind would bias the judgments in an optimistic or pessimistic direction.

Evaluating Oneself and Others

Judging Others. Just as people's mood affects their evaluations of their possessions, their lives, and their future prospects, so does their mood also influence their judgments about other people's behavior towards them. Our social perceptions of what someone is doing, of what is happening around us, are heavily tinged with subjectivism and evaluation. The meaning of people's actions is not given to us objectively, but rather is projected onto those actions. In other words, we have to read the intentions hidden behind someone's actions and words. In that reading, our feelings strongly influence how we interpret behavior. Thus, we have to decide whether a Senator who argues for a position is expressing his actual views or is just posturing for his constituents, whether he is showing admirable persistence or pigheaded stubbornness; whether a soldier in combat who takes a risk is being courageous or irresponsibly reckless; whether a policeman's use of force is appropriate or is
excessive. Clearly, the judgments we make depend on how the actions impact on us and how we feel about the person. And that impact and feeling are very much mixed together with how we are currently feeling for perhaps totally irrelevant reasons. In general, our research finds that people who are temporarily happy tend to be charitable, loving, and forgiving in their interpretations of others. Depressed people are quick to notice any signs of flagging friendship, they exaggerate the slightest criticism, and overinterpret remarks as critical of themselves.

**Explaining One's Successes and Failures.** These attributional biases appeared in an experiment by Joe Forgas, Stephanie Moylan, and me (1990). The subjects were students in an Introductory Psychology class who had recently received their exam score and ranking on an important examination they'd taken earlier in the class. For the experiment, the students first watched one of two short films designed to evoke feelings of either happiness or sadness. They then rated their satisfaction with their exam performance. Furthermore, they judged the extent to which their exam performance was attributable to their ability and effort versus the difficulty of the test or their good or bad luck. We divided subjects into those who had scored well on the exam and felt satisfied with their success, versus those who had scored poorly and felt they had failed. We found that when feeling happy, subjects who'd done well attributed their success to their ability and effort in studying, whereas the happy ones who'd failed explained their failure as due to bad luck or an unfair test. On the other hand, when students had been put in a sad mood, those who had done well attributed their success to an easy test or to simple dumb luck, whereas those who had failed the exam blamed their failure on their lack of ability and weak efforts. Thus, happy people take credit for their successes and slough off blame for their failures; in contrast, sad people do just the opposite, blaming themselves for their failures, and denigrating their successes. Such techniques are guaranteed to maintain their current mood.
Marital Blaming. Similar results were obtained by Forgas (1994) when people made temporarily happy or sad by a film at a cinema were asked in a survey to explain the cause of various serious conflicts in their marriage, such as fights over finances or extreme jealousy. Contrary to what you might think, after a happy movie people were not more likely to accept blame for their marriage problems. Quite the contrary; happy people judged themselves as relatively blameless, whereas people who'd just come out of a sad movie tended more to blame themselves, believing that they were more responsible for causing problems in their marriage. So again, sad people are blaming themselves in a manner that will unwittingly maintain their sad mood.

Projecting Hostility. The idea that people's moods alters their perceptions and attributions of others is further confirmed by studies of anger and hostility. In laboratory studies, we find that when subjects are provoked to anger, they tend to be uncharitable, fault-finding, have a chip on their shoulder, and are ready to take offense (see also Bandura, 1973, and Zillmann, 1979). They may take out their anger on innocent bystanders in a manner reminiscent of scapegoating.

The idea that hostile people are primed to perceive hostility in their social environment has also been strongly supported in field research by Kenneth Dodge (1985). He studied the aggressive behaviors of young bullies -- boys between the ages of 7 and 11 -- who were observed in peer groups of elementary school children. Dodge found that bullies have trained themselves to interpret their social interactions with very hostile biases, as providing evidence that their peers dislike them and are trying to do them in, so they believe that they are justified in beating up on those kids.

Self-Perception. The material I've just reviewed shows that people's moods influence their perception and evaluation of the behavior of others. We also have evidence that mood similarly influences people's observations and evaluations of their own behavior. In an experiment by Joe Forgas, Susan Krantz and me (1984), subjects who had been put into a good or bad mood rated their own behavior every 5 seconds for pro-social,
neutral, or anti-social aspects. They did this by viewing themselves on videotape in a social interaction recorded the previous day. The percentages of each type of observation of themselves are depicted in Figure 7.

People in a good mood judged themselves in the video to be emitting large numbers of positive, pro-social behaviors, appearing suave, friendly, and competent. People in a bad mood saw themselves as emitting many negative, anti-social behaviors, appearing as withdrawn, socially unskilled, and incompetent. These effects were all "in the eye of the beholder" since objective judges rated the videotaped subjects as displaying about the same levels of positive and negative behaviors.

We can explain such results by supposing that the perceivers' mood primes into readiness mood-congruent concepts they then use to classify as positive or negative the ambiguous gestures, speeches, and body language they view in the videotape -- even when they're viewing themselves.

Self Confidence. In related research, David Kavanaugh and t (1985) studied how temporary moods influence people's sense of efficacy or competence in accomplishing a variety of tasks. Subjects induced to feel temporarily happy or sad rated the likelihood that they could successfully carry out diverse actions -- such as attracting someone of the opposite sex, forming friendships, assertively dealing with others, doing well in intellectual and athletic tasks. They were asked to ignore their current feelings and to make these judgments according to what they normally would be able to do.

We found that relative to control subjects in a neutral mood, happy subjects had an elevated sense of self-efficacy, confidence, and competence, whereas sad people had a lowered sense of self-efficacy. These effects prevailed across all content domains. These mood influences are important since we know that self-efficacy judgments determine which activities people will attempt and how long they will persist
in the face of difficulties. We may explain these effects in terms of mood-congruent availability of the subjects' memories for positive (versus negative) experiences in the questioned activity. Although people's average levels of achievement will differ greatly depending on their history, each of us has his or her private collection of "better" vs. "worse" performances evaluated relative to our standards in a given domain. However, a temporary happy or sad mood can then shift the availability of these two sets of memories, thus temporarily biasing our estimate of our capabilities.

**Habitual Optimism or Pessimism.** The material reviewed illustrates that what people see and how they interpret a situation varies with how they're feeling. Of course, people can also acquire a certain habitual style of interpreting the world, either through jaundiced or rose-colored glasses. We all know people who habitually see the bad side of things, who can find some gray clouds to worry about in every sky. Some of these people have been trained to worry in distinctive ways. Indeed, some professions train their members to adopt a characteristically optimistic or pessimistic perspective on the world and human nature. For example, stockbrokers are trained to exude optimism about their market investments; on the other hand, insurance salesmen are trained to imagine hundreds of disasters that we should worry about and insure ourselves against. These habitual styles of viewing the world can be explained by the person's training history and selective exposure to only certain aspects of reality. For example, police in urban ghettos see mainly the criminal effects of poverty, and as a consequence they generally have a very low opinion of human nature.

**Concluding Comment**

I will draw to a close with a few conclusions. I have selectively reviewed research that has a very simple message, namely, positive and negative emotions bias our personal and social judgments in a positive or negative direction, respectively. The overwhelming results question the age-old belief that people are supremely rational creatures, that we are well-functioning calculators who can set aside our passions, look
at the facts objectively, and can arrive at our evaluations and judgments rationally and without bias. All of our subjects believed this myth; they believed that they were being totally objective, that their emotions were not influencing their judgments and perceptions of themselves and their world. But we find that people cannot override their emotions; their emotions appear to leak out in nearly everything they do. Their thinking is suffused with emotion.

I think that by appreciating these facts about how our emotions dramatically color our memory and our judgment, we should be able to gain a better understanding and tolerance for differences in each other's judgments and perspectives.
Figure 1. Percentages of items generated by subjects when they were temporarily happy or sad that were recalled the next day when they were feeling happy or sad. (Data from Table 3, Exp. 1 of Eich & Metcalfe, 1989; reprinted by permissions.)

Figure 2. Number of happy and sad memories of recent events reported by subjects made temporarily happy or sad. (Based on Snyder & White, 1982; adapted with permissions.)

Figure 3. Free recall percentages of happy, angry, or sad episodes by neutral-mood subjects who studied them earlier while feeling happy, angry, or sad. (Data from Gilligan, 1982; reprinted with permission.)

Figure 4. The expressed desire of depressed and non-depressed students to meet and get to know someone whose preliminary evaluation of them was positive, neutral, or negative. (Data adapted from Swann et al., 1992a; reprinted with permission.)

Figure 5. Average times happy or sad subjects devoted to reading descriptions of the positive or negative behaviors of a stranger they were judging. (From Forgas & Bower, 1987; reprinted with permission.)

Figure 6. Average probability estimates of positive events ("blessings") and of negative events ("disasters") for subjects who are temporarily feeling happy, neutral, or sad. (Data from Wright & Bower, 1992; reprinted with permission.)

Figure 7. Percentage of self-observations of positive or negative interaction behaviors perceived by subjects feeling happy or sad during the judgment. (Data from Forgas, Bower, & Krantz, 1984.)
REFERENCES


