COGNITIVE SOCIAL PSYCHOLOGY

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TOWARD UNDERSTANDING THE RELATIONSHIP BETWEEN FEELING STATES AND SOCIAL BEHAVIOR

Have you ever had an experience similar to this: You are walking down a street, on a clear, bright day, when suddenly you come upon a $5.00 bill lying right there in your path, looking up at you, so to speak; and no one is there to claim it but you? You stare, blink, and determine in a split second that it really is money; you look around again and see no one. And so you pick up the $5.00 bill, give a thought to your good fortune, feel a lift in your spirits, and perhaps think about how you will spend the money or what recent expenditure it "covers." Chances are that we have all had an experience something like this at one time or another. Now, we would like to ask you what effect you think this "find" and its resultant elation had on your cognitions and behavior.

Next, consider the following excerpt from a short story by Katherine Mansfield, in which she describes a young woman, Bertha, who is experiencing a "feeling of bliss. . . ." Bertha reflects on her life thinking,

> Really—really—she had everything. She was young, Harry and she were as much in love as ever, and they got on together splendidly and were really good pals. She had an adorable baby. They didn't have to worry about money. They had this absolutely satisfactory house and garden. And friends—modern, thrilling friends, writers and painters and poets or people keen on social questions—just the kind of friends they wanted. And then there were books, and there was music, and she had found a wonderful dressmaker and they were going abroad in the summer, and their new cook made the most superb omelettes. . .
>
> From *Bliss*, Katherine Mansfield

Bertha's state, like the one we asked you to imagine at the very beginning of the chapter, is typical of what we would call a positive feeling state, and we suggest that such states have extensive effects on general cognition, social judgment, and behavior. Perhaps the cognitive effects are difficult to discern on the basis of the first illustration, in part because it is not written in such detail as the excerpt, and the exercise produces only a shadow of the original experience. The train of thought detailed in the Mansfield excerpt, however, demonstrates nicely the kind of cognitive effects we are suggesting: Bertha's thoughts go from being in love, to having exciting friends, to going abroad, and to delicious omelettes. We will be presenting evidence that such feeling states, negative as well as positive, influence what people think about and the judgments they make, and thus have important effects on social behavior; we will also suggest a cognitive interpretation of how feeling states have these effects. Thus the relevance of this chapter to a book on cognitive social psychology should become evident, for we will propose that the impact of feeling states on perception and social behavior can best be understood as functions of the cognitive processes through which people organize and utilize knowledge of the world and, on that basis, make judgments and choices of actions in both social and nonsocial contexts.

THE NATURE OF FEELING STATES

The literature in social psychology contains many studies in which terms such as "feelings," "emotions," "moods," and, more generally, "affect," are used. Since many of these words are used interchangeably, we will define what we mean by "feeling states," and distinguish this term from "emotion."

Feeling states or moods are induced by pleasant or unpleasant experience—pleasing music, noise, a beautiful scene, something positive or negative happening to a person—or by recall of positive or negative experiences from memory (although the latter may constitute a special, attenuated, case). Many authors argue that feeling states involve labeling or interpretation (e.g., Schachter & Singer, 1962), but others propose alternative models of how feelings are generated. Leventhal (1974), for example, suggests that feelings of pleasantness and unpleasantness may be basic perceptual reactions, produced when innate perceptual mechanisms sensitive to specific, emotion-producing features of a display are stimulated. In either case—and we suspect, as Leventhal proposes, that there are conditions under which each of these potentialities predominates—we suggest that the feelings, once induced, are prolonged because positive or negative thoughts tend to lead to other, similarly toned thoughts and behavior. This, we suggest, creates a feeling state or mood. We would also propose that feeling states actually consist in thinking positive (or negative) thoughts and in having easy access to a substantial amount of additional positive (or negative) material in memory.

The first point we would make regarding the kind of state we are describing is that feeling states are pervasive (Ryle, 1950; Nowlis, 1970; Brady, 1970). They are not directed toward any particular subject and cannot be identified with any specific set of behaviors. Bertha's state is an example of a positive feeling state; thoughts about a wide variety of topics are generated—the attractiveness of the baby, good music, superb omelettes, and so forth. For another example, a positive feeling state produced by receiving an unexpected gift may lead not only to thoughts of how pleasant the giver is, but to thoughts of how satisfied one is with one's life, and to recalling of what a great time one had at the party last night. One can easily think of negative feeling states as well. Just imagine a woman who has completed an interview for a job. She thinks she did poorly and, consequently, that she will not get the job. This leads her to think about how incompetent she is, how disappointed her husband will be, and how much she needs the income. Soon she may also be thinking about how poorly she and her husband have been getting along, and of what a miserable winter they've been having. Note that in this illustration again, the feeling state is pervasive, and one thought associated with negative feeling leads to similarly toned thoughts on many different topics—lack of money, a bad winter, and personal incompetence.

Likewise, the cause of a person's feeling state does not necessarily become the target of the behavior affected by it. A given feeling state may affect a great variety of judgments and behaviors. Thus we can understand the finding that a person put in a positive feeling state by receiving the news that he or she has just succeeded on a task, for example, is more likely than a control subject to help some third person (e.g., Isen, 1970). In other words, feelings have neither specific behavioral impulses nor specific targets associated with them. Rather, the behavior affected by feeling states is likely to be determined by what in the environment a person's attention is directed to after the feeling state has been induced. If a person is given a free gift, which induces a positive mood, and that person subsequently comes across someone in need of help, the person's decision about whether or not to help is what will be affected by the feeling state (Isen, Clark, & Schwartz, 1976). If the same person instead is asked how his or her car is running, that judgment is what will be affected by the feeling state (Isen, Shalker, Clark, & Karp, 1978).

Note that our examples above imply that in most cases, unlike "emotions," feelings are not attention-getting, nor do they interrupt ongoing behavior to result in an abrupt change in activity. Rather, whatever induces a feeling state tends gently to redirect ongoing thinking and behavior and/or to affect what behavior or thoughts will occur next, but within the existing context. This means that the impact of feeling states on behavior is not immediately obvious, and it may be this factor that has led some others (e.g., Brady, 1970) to feel that affect has little influence on interaction or behavior. This may also account, in part, for the neglect of feeling states in psychology, generally. Brady (1970, p. 70), for example, has stated that

> Although both feelings and emotional behavior involve psychological interactions between the organism and environment, a useful and important distinction between the two can be made on the basis of the localizability of their principal effects or consequences. *Emotional behavior* seems most usefully considered as part of a broad class of *effective* interactions, the primary consequences of which appear to change the organism's relationship to its *external* environment. *Feelings* or *affective* behavior, on the other hand, can be distinguished as a generic class of interactions, the principle effects of which are localizable *within* the reacting organism rather than in the exteroceptive environment.

In other words, Brady focuses on the feeling tone of these states (the subjective experience of feeling) but suggests that, unlike emotions, they do not have notable effects on a person's interactions with people or objects in the environment.

In contrast, we suggest that feelings have important effects on cognition and behavior, and we would even argue that, because these states occur so frequently, understanding of their effects is extremely important to our understanding of behavior. Powerful emotional experiences may interrupt behavior and may be more dramatic and attention-getting when they occur (Simon, 1967; Mandler, 1975). But the subtle, pervasive, and almost irresistible effects of low-level affective states are so often with us that their potential influence may be very great, and they are deserving of study in their own right, distinct from high-intensity emotion.

It is for this reason, that we believe it is important to study feeling states in their naturally occurring forms and contexts. Some authors have attempted to study affect in a more context-free manner, as induced via hypnosis (Bower, Monteiro, & Gilligan, 1978) or by means of feedback from a meter (Forest, Clark, Mills, & Isen, 1979), for example, in an effort to study the "pure" emotion or an intense form of the emotion or feeling state. While the latter is appropriate for studying certain aspects of emotions or other states, we propose that in studying feeling states (1) there is an advantage to recreating as nearly as possible the feelings that one wishes to study, and (2) context and the process of constructing the feeling state naturally is an integral part of the experience. The feeling states induced in an experiment that arranges for its subjects to experience good fortune or success or pleasant social interactions, for example, if these are the experiences that one presumes to be influential in determining behavior, are probably more likely to duplicate the influential feeling states that people experience than are the feeling states induced more "purely." (Of course one cannot duplicate every possible individual mood-inducing circumstance; nor is this necessary if one uses a range of situations broad enough to allow triangulation on the construct of affect and to provide the basis for confidence that the situations used are representative of those that affect people naturally.)

In summary, then, we have said that feelings are general and pervasive, having no inherent targets, and they usually do not interrupt ongoing behavior. They are relatively transitory, they can occur frequently, often in the normal course of everyday life, and they consist in thinking about positive or negative material and in having easy access to a substantial amount of additional compatible material in memory. We tend to think that physiological arousal is not a necessary condition for the existence of a feeling state, although it can certainly accompany feelings; however, we are not ready to decide this issue, since evidence on it is lacking.

Feeling states or "moods" are thus distinguished from "emotions," which, in contrast, are usually more intense (Wessman & Ricks, 1966; Nowlis, 1970) and do involve arousal as well as a cognitive component that is usually thought to provide the interpretation and the positive or negative valence of the emotion (Mandler, 1975; Schachter & Singer, 1962). Further, the intensity of emotions, combined with the fact that emotions are closely tied to specifiable behavior, means that emotions are likely to disrupt ongoing behavior and to result in behavior directed toward a different goal (Brady, 1970). As Brady (1970, p. 70) has stated, ". . . emotional behavior seems uniquely definable in terms of a change or perturbation, characteristically abrupt and episodic, in the ongoing interaction between organism and environment."

Finally, despite the differences that we have noted between emotions and feeling states, it is probably not the case that they can be entirely separated from each other. Feeling states and emotions often occur together because the conditions that elicit emotions may also elicit a feeling state. For example, a personal insult may elicit anger, which leads to a counterattack, and the same insult and/or the counterattack may also elicit an ongoing negative feeling state.

All one need do in order to see this point is to remember one's last real argument with one's spouse, parent, sibling, or whomever. After the argument (and before making efforts to feel better), one may have felt "cross" or irritable. One's children may have seemed more "underfoot" than at other times, one's responsibilities at work or at home may have seemed more burdensome than usual, and one may have felt like a fire-breathing dragon apt to "pounce" on whatever unsuspecting soul entered the room or called on the phone. We would say that this is a feeling state of the kind we have been describing—not directed at anyone in particular, but able to affect many impressions and behavior—seemingly unrelated to the argument, but accompanying the emotional state. Thus feelings and emotions may be associated, even though they are identifiably different.

THE IMPACT OF FEELING STATES ON JUDGMENT AND BEHAVIOR

Now that we have examined what we mean by the term "feeling states," and have explained why we think it important to study them, we may turn to the question of just what their effects on social behavior and judgment have been shown to be. Social psychologists have accumu-

lated evidence indicating that both positive and negative feeling states are important determinants of people's impressions of their world and of their behavior.

According to the evidence, people who are in positive feeling states seem to make judgments and to behave as if they "viewed the world through rose-colored glasses"—everything seems slightly better than usual—and they behave in ways that reflect this and suggest that they are trying to maintain their mood. Likewise, on the other side of the coin, negative feeling states sometimes seem to have the opposite, but parallel, effect on people. People in negative states may tend to see the negative side of things and be more pessimistic than usual, and their behavior may reflect these negative expectations and may serve to keep them in the negative feeling state. People feeling this way may withdraw from social interaction, or they may interact "with a chip on their shoulder." They not only seem to see things in a negative light, and to be irritable, but they often behave in ways that antagonize others and almost ensure the continuation of the negative state. However, in the case of negative feeling states, people sometimes engage in behavior that might reduce the effect of the negative state or even remove it. Clearly, then, the effects of negative feeling states on impressions and behavior are more complex than those of positive states. Sometimes people in negative states behave negatively, in accord with their moods; and sometimes they behave in a prosocial manner, apparently in an attempt to alleviate the negative mood. We will discuss this complexity and suggest a possible interpretation of it later in the chapter. For the time being, let us summarize the evidence.

Positive Feeling States

When Davitz (1970) asked people to report what they felt when they felt happy, they consistently reported such things as, ". . . the world seems basically good and beautiful, men are essentially kind, life is worth living and I keep thinking about how lucky I am." Experimental evidence buttresses these impressions that people in a positive feeling state have a more positive impression of their world than do others. For example, Isen et al. (1978) induced a positive feeling state in some randomly selected people in a shopping mall by giving them a free gift. People who had received the free gift, in contrast to a control group, later reported on an apparently unrelated consumer survey that their cars and television sets performed better and had better service records. Other studies have shown that people in whom a positive feeling state has been induced rate slides of ambiguous scenes as more pleasant than do people who are not in a positive feeling state (Isen & Shalker, 1977; Forest et al., 1979), have lower tachistoscopic thresholds for success-related words (Postman & Brown, 1952), and tend to rate ambiguous facial expressions (a surprise/fear blend, for example) as more positive than do control subjects (Schiffenbauer, 1974). Additionally, studies have found that being in a positive feeling state causes people to express

expectations of future success (Feather, 1966) as well as of other kinds of positive events (Masters & Furman, 1975).

Positive feeling states also have been shown to have important effects on social behavior. For example, being in a positive feeling state has been shown to cause people to reward themselves more generously (Mischel, Coates, & Raskoff, 1968), to choose to look at positive rather than negative self-relevant information (Mischel, Ebbesen, & Zeiss, 1973), to help others more (e.g., Aderman, 1972; Batson, Coke, Chard, Smith, & Taliaferro, 1979; Cunningham, Steinberg, & Grev, 1980; Isen, 1970; Isen & Levin, 1972; Isen et al., 1976; Levin & Isen, 1975; Moore, Underwood, & Rosenhan, 1973; Underwood, Froming, & Moore, 1977; Weyant, 1978), to report greater liking for others and more positive conceptions of people (Gouaux, 1971; Griffitt, 1970; Veitch & Griffitt, 1976), to increase willingness to strike up a conversation or to approach strangers for information (Batson et al., 1979; Isen, 1970), and to be more receptive to persuasive communications (Dribbin & Brabender, 1979; Galizio & Hendrick, 1972; Janis, Kaye, & Kirschner, 1965).

Negative Feeling States

The effects of negative feeling states on people's impressions and behavior are more complex than the effects of positive feeling states. While the effects of negative feeling states on *judgments* appear nearly the mirror image of the effects of positive feeling states on judgments, the effects of negative feeling states on *behavior* are more mixed. Sometimes they are the opposite of the effects of positive feeling states, but sometimes negative states produce the same kinds of behavior produced by positive feeling states.

To illustrate this, first consider the effects of negative feeling states on judgments. People in negative feeling states seem to feel that the world is pretty bleak. For instance, Davitz (1970) found that people reported having a sense of being gripped by the situation, let down, and feeling vulnerable and totally helpless when they were in negative moods, as well as feeling less confident, more irritable, and "ready to snap" (Davitz, 1970). In addition, research has shown that people in whom a negative feeling state has been induced rate slides as less pleasant (Isen and Shalker, 1977; Forest et al., 1979) and have lower tachistoscopic thresholds for failure-related words (Postman & Brown, 1952) than do people who are not in a negative feeling state. Being in a negative feeling state decreases attraction towards others and results in more negative conceptions of others (Gouaux, 1971; Griffitt, 1970; Veitch & Griffitt, 1976), and research has also shown that people experiencing negative feelings tend to perceive negative affect in others' facial expressions (Schiffenbauer, 1974).

As far as *behavior* goes, however, it seems that negative feeling states do not as consistently produce antisocial behavior or reduce prosocial behavior. For example, although negative feeling states have sometimes been shown to increase antisocial behavior and aggression (Baron &

Bell, 1976), and have sometimes been shown to decrease prosocial behavior and helping (Moore et al., 1973; Underwood et al., 1977), there are many studies reporting failures to find effects for negative feelings that are opposite to the effects found for positive moods. For example, while Mischel et al. (1973) found that people in positive feeling states did selectively choose to look at positive self-relevant information, people in negative feeling states did not selectively choose to look at negative self-relevant information; while Mischel et al. (1968) found that positive feelings increased self-gratification, they did not find that negative feelings decreased self-gratification; and while Isen (1970) found that positive feelings increased helping, she did not find that negative feelings decreased helping.

In addition, sometimes negative feelings have been shown to *increase* positive behaviors, just as positive feeling states do. For instance, negative feeling states such as guilt or embarrassment, incompetence, anger, and sadness have been shown to increase self-reward or to be associated with increased helping or compliance with a request [e.g., Carlsmith & Gross, 1969; Cialdini, Darby, & Vincent, 1973; Cialdini & Kenrick, 1976 (for older subjects); Donnerstein, Donnerstein, & Munger, 1975; McMillen, 1971; Regan, 1971; Regan, Williams, & Sparling, 1972; Underwood, Moore, & Rosenhan, 1973]. Thus, on the basis of evidence collected so far, we can say that people in positive feeling states are more apt to behave in a prosocial manner than are others, but we cannot make a clear and straightforward prediction for people in negative feeling states.

Finally, there is research that demonstrates additional effects of feeling states on impressions and behavior but cannot easily be categorized as showing effects of either positive or negative feeling states because these studies compared positive and negative states only with each other. Seeman and Schwarz (1974) and Schwarz and Pollack (1977) have shown that children in whom a positive feeling state has been induced are better able to delay gratification than are children in whom a negative feeling state has been induced; and Fry (1975) found that children in a positive feeling state were better able to resist temptation to play with a forbidden toy than were children in a negative feeling state. In addition, Zillmann, Mody, and Cantor (1974, Study II) reported that people's ratings of their own sadness were significantly positively correlated with their ratings of the sadness of an encounter between two people in a film and with their ratings of the sadness of each of those two characters.

We will conclude our presentation of the evidence of the effects of feeling states on judgments and social behavior by saying that it is clear, even given the limited amount of attention paid to feeling states as determinants of social behavior until recently, that these effects are extensive. In fact, the effects of feelings on behavior may be even more pervasive than is apparent from the above list. For example, Weiner has recently speculated that the effects which causal attributions have on expectations for future success or failure may be mediated by feeling

states (Weiner, Russell, & Lerman, 1979; Weiner, 1980). Specifically, what Weiner and his colleagues have suggested, on the basis of recent evidence, is that an attribution, say, for a success, may be made to ability, which in turn may lead to positive feelings, which may be what ultimately causes expectations for future success or maintenance of performance.

TOWARD UNDERSTANDING THE PROCESS BY WHICH AFFECT INFLUENCES BEHAVIOR

While the studies described above tell us that feeling states are important determinants of social impressions and behavior, they do not tell us why this is the case. We are left with questions regarding the process by which feeling good results in one's reporting that the world seems basically good, or by which feeling bad sometimes leads to increased helping. There have been attempts to answer these questions before now, some of our own work included; but for the most part, these explanations have not focused on the *process* by which feeling states have their impact on behavior and perception. Berkowitz (1972), for example, has postulated that the reason that someone in a positive feeling state may help another more is that the positive feeling state ". . . affects the potential helper's frustration tolerance or willingness to accept restrictions on his freedom of action. He is more tolerant of the demands the help request imposes upon him than he otherwise would be . . . " (p. 83). This idea is an important one, and other authors have suggested other possible mediating variables that could also fruitfully be pursued. For example, Isen (1970) suggested that people in positive moods might feel more positive toward others and/or more competent, able to cope with the world and events that might occur, and less in need of their resources (Isen, 1970, p. 295). In this chapter we wish to address the question that underlies these variables: by what process might being in a positive feeling state lead to more tolerance? How do positive thoughts lead to other positive thoughts? How do negative thoughts lead to other negative thoughts? How is it that feeling states come to affect behavior and judgments in the ways that they do? These are questions about process, and this chapter proposes a possible set of processes by which these observed relationships may be established and maintained.

The Accessibility Hypothesis

In an earlier paper (Isen, 1975) and article (Isen et al., 1978), Isen and her colleagues described a process suggesting that positive affect plays a role in the organization and utilization of memory. Here we will consider the applicability of that discussion to negative feeling states as well, and will expand on it. In two studies reported by Isen et al. (1978) in which subjects were made to feel good, and were then asked for judgments regarding their possessions (Study 1) or for recall of positive, negative,

and neutral trait adjectives learned during one or another of the induced feeling states (Study 2), evidence was found that people in positive feeling states are more likely to retrieve positive material from memory than people who are not in positive feeling states. It was suggested that this occurs because thoughts associated with or responsible for the positive feeling state serve to cue other positive material available in memory, thus making that material more accessible.

Good feeling may cue positive material in much the same way that thinking about category names or words may cue categorically associated material in memory. For instance, Tulving and Pearlstone (1966) demonstrated that the presence of a given retrieval cue (category name) at time of recall served to increase the accessibility of related material (members of the category), resulting in increased recall of that material. Subsequently, other cognitive psychologists found that it takes less time for a subject to identify a letter string as a word if it is preceded by an associated word than if it is preceded by an unrelated word (Meyer & Schvaneveldt, 1971; Posner & Snyder, 1975), to name a word if it is preceded by a related word than if it is preceded by an unrelated word (Jacobson, 1973; Warren, 1977), and to retrieve the name of a category member if the subject has just retrieved a member of the same category rather than of a different category (Loftus, 1973; Loftus & Loftus, 1974) Cognitive psychologists have called this process "priming" (Brown, 1979; Neely, 1976, 1977). Thus it seems that affective state can function like category name or other organizing unit as a cue to prime related cognitive material, and this implies that affective tone may be an important dimension of cognitive organization.

Two studies conducted by Teasdale and Fogarty (1979) provide additional evidence for the position that affective tone may cue related cognitive material and thus may be involved in the organization of memory. Those authors used a paradigm involving latency of recall of positive and negative material and found that, following positive mood induction, pleasant experiences were more quickly recalled than were negative experiences. As in the Isen et al. (1978) study, however, retrieval of negative material was not affected by induced mood state.

Two additional studies supporting the position that feeling states may serve as cues for cognitive material were carried out by Weingartner, Miller, and Murphy (1977) and Bower et al. (1978, Study 3), who found evidence for a state-dependent learning effect as a function of induced "mood." The "state-dependent learning effect" refers to the tendency for material learned when one is in a specific state (say, mania or alcoholic intoxication) to be better recalled when one is again in that same state than at another time (Henry, Weingartner, & Murphy, 1973; Weingartner & Faillace, 1971). This implies, though in a slightly different way, that affective state can serve as a memory cue.

All of these studies, then, provide some support for the hypothesis that feeling states can cue retrieval of material in memory linked to a feeling state. Each study supports this point for positive feeling states, and the Bower et al. (1978) study supports it for negative feeling states as well.

Models of How Increased Accessibility Occurs

In our earlier work we said very little about the way in which a feeling state might "prime" or increase accessibility of similarly toned material in memory. Here we will elaborate upon that earlier work by suggesting two models of the way in which this might occur. One explanation recently proposed by a team of cognitive social psychologists (Wyer & Srull, 1981) uses a "storage bin" conception of memory. The other relies on a conception of "spreading activation." Each position involves assumptions regarding how material is stored in memory and how it is encoded and retrieved, and each has some support in empirical evidence. We will not present this evidence here, nor try to make a case for one or another of these theories. Rather, we simply wish to call these alternative conceptualizations to the reader's attention and illustrate how our ideas fit with some selected current conceptions of memory.

Storage Bin Model. In discussing their model of memory, Wyer and Srull (1981) first make some assumptions regarding how material is stored in memory. In their model, memory is conceived as a " . . . set of content-addressable storage bins" with each bin " . . . tagged in a way that specifically identifies one concept or set of concepts to which its contents refer." Furthermore, information in any one bin may vary in both type and complexity, and any one piece of information may be stored in more than one storage bin.

In addition, Wyer and Srull propose that information is deposited in the bins in the order in which it is transmitted so that the most recently used piece of information is on the top. This is important because, they propose, when a bin containing information that is potentially relevant for the attainment of an immediate processing objective is searched, the most recently deposited material is accessed first. They note that if information is retrieved from any point in a bin for use in processing, it is redeposited on the top of the bin and thus becomes more readily accessible for use.

Information coming in from the environment first passes through a pre-encoder capable of selecting input relevant to the goals of the person at the time. Then the information is passed on to an *Encoder/organizer* whose job it is "to interpret or organize new information by comparing its features with those of previously formed concepts and schemata that exist in Permanent Storage"; and it is assumed that the first concept drawn from a bin will be used, so that further search is unlikely. The information to be encoded may be externally generated information, and/or previously acquired material that is retrieved from memory. Finally, it should be noted that processing goals will determine the selection of the bin from which information is to be drawn.

Using Wyer and Srull's framework, how might feeling states affect judgments and behavior? First of all, the positive or negative mood-inducing event should affect what is on the top of any given bin. This in turn may affect how incoming information is interpreted. For example,

imagine what might happen following a positive mood-inducing event. Someone has approached you in a pleasant manner and has just given you a free sample. That may cause "pleasant" to be on top of a storage bin containing "personality traits" and also place your stereotype of kind, concerned, agreeable people at the top of your "types of people" bin. Similarly, it might place "lucky" at the top of your self-descriptive bin and so forth.

This may affect your judgment about how successful you will be in the future, if, in reaching that judgment, you make reference to your "self" bin. Since the first piece of information to be accessed will be "lucky," you'll be likely to predict future good luck or success. Likewise, if you come across someone in need of help, you might wonder what their reaction to being offered help might be, and you might retrieve material from your "people" bin in order to answer that question. Since one of the first bits of information you will retrieve will be that others are agreeable, you might be more likely to go ahead and help than at other times.

Spreading Activation. An alternative way to think about how material is stored in memory, and a way which is increasingly popular among cognitive psychologists, is to think of memory as " . . . a large and permanent collection of nodes (a "node" is a point of intersection in a network) which becomes complex and increasingly interassociated through learning" (Shiffrin & Schneider, 1977; see also Anderson, 1976; Anderson & Bower, 1973; Collins & Loftus, 1975). Next consider the following description of a process of spreading activation (Collins & Quillian, 1972; Collins & Loftus, 1975): They assume that (1) when a concept is processed or attended to, a node is stimulated, and activation spreads out along portions of the network associated with that node, in a decreasing gradient; (2) "the longer a concept is processed (either by seeing or hearing it, or by thinking about it) the longer the activation is released from the node of the concept at a fixed rate"; and (3) "activation is a variable quantity" and intersections or nodes require a threshold for firing (Collins & Loftus, 1975, p. 411).

In order to think about how feelings might be processed in such a system, one has to propose that they are stored in memory, somehow linked to behaviors, objects, and/or situations. This might lead to a rather atomistic picture, but it need not. There are, of course, several forms that such storage might take. For example, it is possible that when material is stored in memory, any associated feeling is also stored in memory linked to that material. Returning to the story at the beginning of our chapter, if Bertha has felt good in the past when her new cook made superb omelettes, then stored in memory along with memories of her cook's omelettes, should be the positive feeling Bertha experienced upon eating the omelettes. Similarly, if one has helped someone in the past, been smiled at and warmly thanked, and felt good as a result, then stored along with helping should be the information that a possible consequence of helping is receiving a smile and an expression of thanks,

and linked with that information (one step removed from helping itself) may be the positive feeling tone experienced on the occasions of smiles and thanks. Presumably there are many pieces of information about the world and possible behaviors that are stored in memory and have positive or negative feelings associated with them, and there are presumably many other pieces of information about the world and possible behaviors that do not have any particular feeling tone associated with them.

From these examples it is apparent that material of this kind can be stored either semantically or episodically (Tulving, 1972). For purposes of this chapter we are not distinguishing between kinds of units, although we recognize that such distinctions may be possible and desirable at a later time (Arnold, 1970; Bransford, Franks, Nitsch, & McCarrell, 1977; Jenkins, 1974).

So, in addition to the possibility that feelings are linked to nodes representing individual behaviors or circumstances that occurred in the past, it is also possible that experiences are linked to each other in memory in accord with how they made the person feel. This would imply that some nodes in memory represent feeling tone. Attached to such nodes would be behaviors, objects, situations, or episodes that produced or were associated with a given feeling tone, and memories that are closely associated in this way might be called a category. It is plausible that both positively and negatively toned material is available in memory, probably stored in both of these ways.

Processes Affecting Accessibility of Material in Memory

Having reviewed evidence regarding the effect of positive and negative feeling states on retrieval of material from memory, and having presented two models of how this process may occur, we now propose that a distinction between "automatic" and "controlled" processing, made by Posner and Snyder (1975), will be helpful in understanding the complex effects of feelings on behavior. After introducing first automatic and then controlled processing, we will discuss how these might be influenced by positive and negative feeling states, and then we will propose that controlled and automatic processing operate in concert to produce the varied effects that feeling states have been observed to have on thoughts and behavior.

Automatic Processing

To introduce automatic processing, Posner and Snyder (1975, p. 56) point out that "we are all introspectively familiar with thoughts, ideas or feelings that seem to intrude upon us rather than to occur as a result of our intentions to produce them." Those authors propose that, in contrast with controlled, or conscious, processes and strategies, automatic processes occur (1) without conscious awareness, (2) without intention, and

(3) without producing interference with other ongoing mental activities.[1]

Cognitive psychologists have accumulated good evidence for the existence of such processes (see Posner & Snyder, 1975; Schneider & Shiffrin, 1977; Shiffrin & Schneider, 1977; Hasher & Zacks, 1979), and social psychologists have noted phenomena that may be attributable to them. For example, Schneider, Hastorf, and Ellsworth (1980) discuss "snap judgments" in person perception and suggest that a significant amount of our cognitive activity and some of its resultant social behavior appear to be nonreflective. It may be that such judgments and nonreflective interpersonal behavior are the result of automatic processes, and, in addition, they may be affect-mediated. Further, Zajonc (1968) has shown that mere exposure to a stimulus increases the positivity of judgments about it; and Tesser and his colleagues (e.g. Tesser & Conlee, 1975) have shown that thinking about liked or disliked stimuli increases the polarity of judgments about those stimuli. These and other interpersonally relevant phenomena may result from automatic processes in the following way.

Recall first that in terms of the concept of spreading activation, memory might be considered to be a large, permanent collection of nodes, which becomes increasingly more complex and interconnected through learning, and that stimulation of a node results in activation spreading out along the network toward other nodes. We will further propose that when a node fires, the thought it represents comes to mind. These points imply that the activation threshold of any bit of information in memory can be approached by thinking about material which is associatively related to it (cf. Schneider & Shiffrin, 1977). All of this, of course, happens automatically, without attention or awareness, and without interference with other mental processes.

We have postulated that material may be stored in memory with feeling tone linked to it and/or that there may be "nodes" in memory representing feeling states with examples of objects, behaviors, or situations linked to them that would produce that feeling state. If so, then Tesser and Conlee's finding, that thinking about a positive or negative stimulus results in a more positive (or negative) evaluation being brought to mind, is compatible with the automatic processing formulation. Thinking about a stimulus about which one also feels some affect would be expected to cue or activate other thoughts (almost all of the same affect) about the object and other same-affect-related material. Thus affect should be intensified as additional affect nodes are brought above threshold and fire, that is, as other affect-producing thoughts come to

[1]We should note here that our use of the term "unconscious" does not correspond to the use of the term in the psychoanalytic literature, since we do not relate this unconscious process to "motivated forgetting," "defensive" processes, or any of the host of essentially motivational and derivative concepts and hypotheses that make psychoanalytic theory distinctive. Indeed, our use of the term is almost antithetical to that of psychoanalytic theory, in that in using the term we intend to refer to processes that are effortless and without cost to the cognitive system. (The "mental economy" is presumed to be drained or stressed by the operation of unconscious processes, at least the defense mechanisms, according to the Freudian position.)

mind. Likewise, Zajonc's findings of more positive evaluations following mere exposure to stimuli is understandable as a result of this same process, if one considers that, other things equal, most stimuli would be slightly positive to start with. (This latter point is based on evidence that people usually feel slightly positive, they report most of their experiences to be above a psychological neutral point, and positive material tends to be more accessible (e.g., Bousfield, 1950; Boucher & Osgood, 1969; Fiske, 1980; Matlin & Stang, 1979).

Thus, we are proposing that affect may be subject to automatic processing and are using the automatic processing effect to explain certain social psychological data that involve affect. We suggest, in addition, that there are automatic processes initiated by feeling state-inducing events, both positive and negative, which contribute importantly to many of the effects which feeling states have been shown to have on other impressions and behavior, as well. When, for example, a positive feeling state manipulation, such as the giving of a free gift, takes place, material linked to such acts (including a positive feeling tone and other material associated with that node) should be activated as a result of automatically spreading activation and should either "come to mind," or be brought closer to coming to mind. Thus one may be more likely to think about how kind others are, about how pleasant the day has been, and so on. Once the threshold for activation of positive material is reached, the accessibility of positive material in memory is increased and the person should "be" in a positive feeling state.

This increased accessibility of material related to a person's current affective state may then affect his or her impression of the world and behavior. As an illustration, consider why subjects in positive feeling states in the first study reported by Isen et al. (1978) responded that their cars ran better and had better service records than did others. Receiving an unexpected free gift presumably activated in the person a positive feeling state, with all of its cognitive consequences, as described above. Now, picture our lucky shopper walking along with lowered threshold for the activation of the other information that was stored in memory along with the positive feeling tone (i.e., for positive information), when the shopper encountered the person taking the survey and was asked to rate the performance and overall service record of his or her car. This request activated another set of nodes—those relating to the car. Many different things may be thought of in connection with a person's car, but the person is unlikely to think of them all. The threshold for all of them will be lowered by the question, but these thresholds will not all be crossed nor their associated thoughts about the car brought to mind. The positive ones will have an advantage. In this situation, since the person's feeling state and his/her attempt to think about his/her car intersect at the point where positive things are associated with the car, those positive things should be the aspects of the car most likely to be activated above threshold and to come to mind in response to the surveyor's question. As suggested in another context by Tversky and Kahneman (1973), it is the ones which come to mind first, intrude on the person's

consciousness, or, as they put it, are "available," which are likely to affect the answer given on the survey. Thus people in positive moods should "think of" more positive things about their cars and should give better reports on their cars, which is, of course, exactly what Isen et al. (1978) found.

Note that this formulation suggests that the effects of mood on judgment or evaluation are determined by the retrieval process, not by a change in the stored evaluation itself. Thus, in the above example, we would expect that a person who is feeling good should think of more positive aspects of his/her car, assuming that it is an average car, with positives and negatives to be thought of. We would *not* expect a person in a good mood to give a high rating to his old "klunker," about which there simply is not a positive thing to be said. This point also has relevance for the specifications of the situations in which the effect of feelings on automatic processes will be most apparent. (This issue is discussed on pp. 93–97).

The same kind of analysis of the operation of automatic processes may be applied to explain why being in a positive feeling state increases people's willingness to help others. Returning to our example of helping above, recall that a person may have stored in memory, linked to helping, a number of consequences of helping. A few may be that the helped person may smile and warmly thank the helper (a consequence that is also linked to a positive feeling tone), or that the helper may be inconvenienced, embarrassed, or delayed in his/her own activities (consequences linked to a negative feeling tone), or that the helped person may rather formally thank the helper and leave (a consequence not linked with positive feeling tone). Ordinarily these consequences may be equally accessible. In other words, when a person comes across another in need of help, the chances of various consequences "coming to mind" may be equally likely.[2]

Being in a positive feeling state, however, may alter those probabilities. The positive feeling state should activate associated material, which includes not only events related in time, space, and type, but also in feeling tone. Since feeling tone is conceptualized here as a node in a network, this activation would, in turn, lower the threshold for activation of still other material. In this case the threshold for activation of the node that indicates that one consequence of helping is being appreciated and thanked should be lowered. Note, however, that so far we have said only that the threshold for activation of the "warmly thanked" consequence has been approached, not that it has been crossed. This is not the same as saying that the positive consequence of helping actually comes to mind at this point as a result of the feeling state. Ordinarily it should not, because the person has not yet become aware of the domain or possibility of helping. Most likely, he or she is not even thinking about

[2]It may also be true that they are *not* equally accessible in the neutral state because of differences in their relative frequencies of occurrence in the particular individual's experience. But, for the sake of clarity, we will assume a situation in which they are equal to start out with.

helping at that moment. However, when the person does come across a situation in which help is needed, that situation should activate a helping node. In turn, activation should spread to each possible consequence of helping, and the consequences that receive the most activation should be most likely to "come to mind." Consequences whose thresholds have already been approached by virtue of being associated with a positive feeling state should be more likely than others to receive sufficient activation to bring them to mind. Thus, when one is in a positive feeling state and sees someone in need of help, or when one is asked for help, the probability that positive consequences of helping will come to mind is greater than if one had been in no particular mood; likewise it is helping, rather than some other behavior, that is likely to be facilitated by the positive state.

A similar example that has empirical support can be given for negative moods. If one is in a negative feeling state, possible negative behaviors stored in memory along with negative feelings, such as aggression, may be activated. However, they may not actually "come to mind," and consequently become more probable, until a cue in the environment also activates them. This may be why Berkowitz and LePage (1967) found that negative affect by itself did not enhance aggression, but that negative affect in combination with a cue for aggression (in their study a weapon) did cause aggression to become more likely.

Combining the above ideas with the suggestion of several authors that helping is the result of a decision-making process in which the person making the decision considers the cost–reward matrix associated with helping or not helping; in the particular case at hand (Latané & Darley, 1970; Piliavin, Rodin, & Piliavin, 1969) one can see how the prediction that people in positive feeling states would help more than others is derived (Levin & Isen, 1975). People who are feeling good will be more likely to think of the rewards of helping than would others. Thus they should also be more likely to perceive the rewards of helping to outweigh the costs and be more likely to actually help.

Here it is important to note that we are not proposing that behavior is determined by people stopping and concentrating on retrieving from memory all possible costs and rewards of helping and then calculating which are greater before making a decision about whether or not to help. Indeed, they do not seem to spend enough time or effort making the decision to warrant such a suggestion; nor does this proposal follow from our analysis. Rather, we assume that, as has been demonstrated by Tversky and Kahneman (1973), the "availability heuristic" will be employed, that people's decisions will be affected by the costs and benefits which "come to mind." We are suggesting further that, of the possible list of costs and rewards, only *some*, and in this case most probably a particular subset, that facilitated by the affective state which the person is experiencing, will come to mind.

We have now outlined a process whereby positive feeling states may affect judgments and behavior through automatic processes, and have illustrated the process by explaining how it might account for increases

in helping when people are in positive feeling states. The same process may also be used to explain how positive feeling states may affect many other expectations, judgments, and behavior, as noted earlier in the chapter. Such automatic processes may also be applied to some of the effects that negative feeling states have been shown to have on impressions and behavior. To illustrate this, consider the findings that persons who are in negative feeling states find people to be less likable than do persons who are not in negative feeling states (e.g., Gouaux, 1971). Most people have had many experiences, both positive and negative, with strangers. For instance, in the past they have encountered people who have been kind, helpful, and interesting to talk to, as well as some who have been cruel, selfish, and/or boring. Given little information about a stranger in the present, it may be that a person's current feelings will determine which items of that information come to mind when evaluating that stranger. Being in a negative feeling state may make a person more likely to think of others as cruel, selfish, and boring, and consequently less likely to opt for interaction with a stranger.

Specification of the Situations in Which the Effect of Feeling States on Automatic Processing Will Be Most Apparent

What has been said so far might make one think that, through automatic processing, being in a positive feeling state would make most behaviors focused upon more likely because one would be more likely to think of positive things associated with that behavior, and that being in a negative feeling state should make most behaviors less likely because one would be more likely to think of negative things associated with that behavior. After all, if the automatic processing that follows a positive or negative mood induction makes awareness of positive (negative) aspects of behaviors more likely, through the process described above, and thereby influences the decision-making process regarding judgments or choice of behavior, then shouldn't this be true across the board, for all judgments and decisions focused upon? Actually no.[3] We expect behaviors such as helping to be facilitated by a positive affective state, but we do not expect behaviors such as harming to be facilitated by this state in most cases. The mechanisms involved in automatic processing specify to some degree those impressions and behaviors that are likely to be affected by a given feeling state and those that are not.

There are at least three types of cases where the automatic processes triggered by feeling states will not lead to judgment or action consonant with the feeling state (taking positive states as the example): those where the behavior or item under consideration has *no* positive associations for the person, so that there is nothing to be primed; those where the number of negative associations far outweigh the positive, so that, although the positive consequences are more likely to come to mind than they are at another time, they will still be overwhelmed by the negative in the decision-making process; and those where the "strength" of the positive associates relative to other associates is inadequate. The last type requires some elaboration.

[3]Even on the basis of what has been said about automatic processing so far, one can think of some behaviors that a positive feeling state might make *less* likely, and some that might become *more* probable as a result of being in a negative feeling state. For instance, if one is in a positive state, one may tend to think of the positive aspects of others and be *less* likely to aggress against them. In contrast, if one is in a negative state, one may tend to think of the negative aspects of others and be *more* likely to aggress against them.

Strength of association may be thought of as the likelihood of one bit of information being brought to mind or the speed with which it is brought to mind when cued by an associated piece of information. The idea that strength of associations may vary is implied in notions such as Rosch's (1975), that some members of categories are better exemplars than others. This idea has been explicitly adopted by many theorists and represented in different manners in their models. For instance, the Wyer and Srull (1981) model implies that strength will be most determined by recency of firing; Higgins and King (1981) and Higgins and Chaires (1980) suggest that frequency of firing should be most important; and Collins and Quillian (1972) think of strength in terms of the distance between nodes. In any case, if strengths are established and do vary at the outset of any given event, then behaviors or objects whose negative or non-affect-related associations are stronger, though not more numerous, than their positive associations may not be sufficiently affected by automatic processing of positive feelings to affect the decision under consideration. Positive associations may be primed, but the strength of the negative associations may cause the latter nonetheless to come to mind rather than the positive.

Assuming that negative feeling states have the same cognitive effects as positive feeling states (a proposition about which we are not altogether certain), the limitations described above on the effects that positive feeling states have on impressions and behavior through automatic processes would have counterparts in limiting the effects of negative feeling states. Automatic processes associated with negative feelings should make most behavior, overall, less likely, a prediction that fits with well-established clinical observation of depressed patients, but this should not be the case without exception. For example, behaviors with *no* negative associations should not become less likely; behaviors or impressions of things which have many positive, relative to negative, feelings associated with them should not be affected; and automatic processing should be unlikely to affect behaviors or impressions of things that have positive aspects far more strongly associated with them than negative aspects.

In addition, we should point out that, overall, the effect of automatic processes may be less influential for negative moods and negative material than for positive states and positive material. Matlin and Stang (1979, Chapter 7) reviewed literature on recall of pleasant and unpleasant material and found that in the majority of the studies that they were able to locate, pleasant material was easier to recall than unpleasant material; and Bousfield (1950) reviewed a number of studies that seem to

support the idea that pleasant material is represented in greater quantities than unpleasant material in memory and may be more interconnected as well. For instance, White (1936) found that people could give a greater number of associations for pleasantly toned words than for unpleasantly toned words; White and Powell (1936) found evidence that associations for pleasant words were given more quickly than were associations for negative words; and Bousfield (1944) showed that within equal periods of time, subjects were able to write down more pleasant objects, activities, and situations than unpleasant objects, activities, and associations. If, as seems likely, given such evidence, positive material is more abundant and, as suggested by Isen et al. (1978), better interconnected in memory than is negative material, then negative material will tend not to be as efficiently cued through this automatic process as is positive material.

Taking these points together, we can make the general statement, regarding the types of decisions and behavior likely to be influenced by affective state, that the automatic processes proposed here will be constrained by the amount of affectively toned material in memory associated with the item, concept, or decision, and by the number and strength of interconnections among similarly toned material. The more positive or negative items that exist in memory regarding an impression or decision, and the greater the number and strength of interconnections between such items, the greater the impact that positive or negative feelings should have on those impressions and behaviors through automatic processing.

One other aspect of the judgment situation will affect the influence of feelings on judgments and behavior, and that is the clarity of the situation or judgments to be made. This is not unrelated to the issue just discussed. At least two studies indicate that the affective state of the perceiver will influence perception only where the stimuli are to some degree ambiguous. First, in the Schiffenbauer (1974) study mentioned above, while that author found that the affective state of the perceiver did influence the perception of certain emotional expressions, he did not find that the ratings of a "happy" expression were affected. That is, subjects experiencing disgust did not rate "happy" expressions any *less* happy, nor did subjects experiencing humor rate the happy expressions as being any *more* happy, than did subjects in no particular mood. He suggests that happy faces are not open to being influenced by mood state because happy faces are distinctive in their appearance and are not easily confusable with other expressions; they are "unmistakable." We would say that their features do not overlap with those of other expressions, or that they are not well-interconnected with the features of other expressions. Indeed, Schiffenbauer refers to Darwin's (1890) observation of the distinctiveness (from all other faces) of a happy smiling face. Thus, where the evaluation involved a distinctive stimulus, no effect of feeling state was observed, while in the more ambiguous cases, feeling state did influence judgment. Likewise, in a study by Isen and Shalker (1977) in which subjects were presented with positive, ambiguous, and

negative slides, only in the case of ambiguous judgments did feeling states influence ratings of the pleasantness of scenes.

In sum, then, our position is not that feeling states greatly distort people's perceptions of the world, but rather that they "tip the balance" of positive and negative information that is utilized in making judgments about the world and decisions about behavior. The impact that they will have through automatic processes is affected by the amount of affectively toned material in memory, by the number and strength of interconnections within such material, and by the clarity of the situation or judgment to be made.

Data Explainable in Terms of Automatic Processes Induced by Feelings

The process that we have described thus far is consistent with the majority of effects positive feeling states have been shown to have; and similarly, but to a lesser extent, it accounts for much of the data on the effects of negative feeling states on impressions and behavior. However, this automatic process does not account for all of the data on either positive or negative feeling states. For example (1) positive feelings have been shown to actually *decrease* the probability of certain types of helping behavior (Isen & Levin, 1972, Study 2; Isen & Simmonds, 1978; Forest et al., 1979); (2) negative feelings have often been shown to increase helping (e.g., Carlsmith & Gross, 1969; Cialdini et al., 1973; Regan et al., 1972) and sometimes have not been found to affect helping (Isen, 1970); (3) children in positive feeling states have been found to be better able to resist temptation than children in negative moods (Fry, 1975; Seeman & Schwarz, 1974; Schwarz & Pollack, 1977),[4] and negative feeling states have sometimes been shown to increase self-reward (Underwood et al., 1973). How are these results to be explained?

Controlled Processing

The automatic processing that we have described is probably not the only means through which feelings influence judgments and social behavior. Rather, as suggested by Posner and Snyder (1975, p. 56), it is likely that "conscious strategies interact with automatic activation processes to determine performance." Recall that Posner and Snyder defined automatic processes as occurring without intention, without conscious awareness, and without producing interference with other ongoing mental activity. They also discussed and presented evidence for controlled, or conscious, processing, involving a mechanism of conscious awareness and intention, one that takes time, requires effort, and

[4]Actually this result can be understood in terms of automatic processing if one argues that the positive mood increases the "attractiveness" of the delay reward, but one must also acknowledge that the mood should increase the attractiveness of the immediate reward as well. Thus the fact that children in positive moods are better able to delay gratification than others is not easily handled by our notions of automatic processing.

is of limited capacity. It ranges in complexity from complicated, planned strategies to the relatively simple "set" to perceive or react (Posner, 1978); but regardless of the degree of complexity of these conscious processes, their distinguishing characteristics are those that drain the limited capacity information processes. We believe that many of the effects of feeling states on behavior cannot be accounted for without suggesting that, in addition to automatic processes, feeling states give rise to certain distinctive controlled processes or strategies.

It may be that a positive feeling state gives rise to a conscious strategy to maintain that state. More specifically, people in positive feeling states may direct their attention to material in memory that will maintain that mood. Thus people in a positive mood might think about behaviors that have produced positive feelings in the past and might be more likely to perform those behaviors in order to maintain their moods. People in negative feeling states may also use controlled strategies, but in that case, in order to change their moods. In other words, they may think of and perform behaviors associated with positive feelings specifically to relieve their negative feeling state.

For example, imagine a man who has just been unexpectedly promoted and who is in a positive feeling state. He may not want simply to go home to his usual routine that night. That seems incompatible with his mood. Instead, he may "feel like" (i.e., think about) going out or having friends over, and actually do so, specifically because such behavior is likely to maintain his positive feeling state.

On the other hand, imagine a man who has just been told that he will not receive an expected promotion and who is in a negative feeling state. He too may find it difficult to go home to his empty house. Therefore he too may "feel like" asking some people to get together with him, and may actually go out, specifically because he knows that such behavior may alleviate his negative feeling state.

The idea that people use controlled processes such as we are proposing is certainly not new. Many others have discussed controlled processes, in general, and there is considerable evidence that people *can* program their attention to receive certain information (see Posner & Snyder, 1975, pp. 69–77).

Even the notion that people use such controlled processes to deal with emotional states is not entirely new. Both folk knowledge and experimental evidence point to the effectiveness of such techniques. "Whistling past the graveyard" is an idiom that refers to a strategy for coping with fear; and the words to two familiar songs, for example, expressly suggest cognitive strategies for dealing with fear and sadness: "Whenever I feel afraid, I hold my head erect and whistle a happy tune, so no one will suspect I'm afraid. . . . Make believe you're brave and the trick will get you far. You may be as brave as you make believe you are." (Rodgers & Hammerstein, 1951, p. 16), and " . . . When the dog bites, when the bee stings, when I'm feeling sad, I simply remember my favorite things and then I don't feel so bad . . ." (Rodgers & Hammerstein, 1959, p. 27).

Experimental evidence confirms that such actions and strategies can

influence emotional experience. For example, recent studies have shown that direct manipulation of cognitions can improve mood in both depressed and nondepressed persons (Hale & Strickland, 1976; Raps, Reinhard, & Seligman, 1980; Strickland, Hale, & Anderson, 1975; Teasdale & Bancroft, 1977). Schneider et al. (1980) summarize the literature showing that "putting on a happy face" can make one feel happier (e.g., Laird, 1974; Lanzetta, Cartwright-Smith, & Kleck, 1976; but see also Tourangeau & Ellsworth, 1979; Buck, 1980). In addition, the suggestion of Cialdini et al. (1973) of "negative state relief" as a possible reason that people help when feeling bad seems closely related to this idea of using strategies to improve feeling state; and other authors have pointed to the mood-maintenance effects of behavior such as helping or choosing to look at positive material about oneself when feeling good (Isen & Levin, 1972; Isen & Simmonds, 1978; Mischel et al., 1973). What we are presenting here that *is* new are some of the implications of the differences between automatic and controlled processes and of the fact that automatic and controlled processes act together to produce the observed effects of feelings on behavior.

Distinctions between the two types of processes make for differential predictions regarding behavior in various situations. Conscious strategies, or even "sets," unlike automatic processes, do *not* occur without effort, consciousness, or interference with other ongoing mental activities. They are limited, require effort, take time, cut down on the efficiency with which other material will be processed, and, although they cannot prevent automatic processes, they may serve to reduce the probability that stimuli activated through such processes will come to consciousness (Posner & Snyder, 1975). In addition, since people have limited capacity for effortful activity, control strategies may not always be employed. These differences imply that the cognitive and behavioral consequences of any given emotion or affect-generating situation will depend on whether and how effectively automatic or controlled processes are activated and on specific aspects of the situation related to the factors that influence this (for example, how much effort the person can put forth at the moment, how much other material is demanding attention at the moment, and so forth). Conditions that can attenuate the effectiveness of controlled processes, for example, may play a crucial role in the kind of behavior that will result.

Many of the findings that cannot be explained on the basis of automatic processes can be explained in terms of controlled processes or conscious strategies. Consider first the finding that being in a positive feeling state decreases helping when the helping task is unpleasant and very likely to destroy the subject's mood. In the Isen and Levin study (1972) the type of helping that was decreased involved serving as a confederate who would annoy people. In both the Isen and Simmonds (1978) study and the Forest et al. (1979) study, the helping task involved reading statements that, subjects were told, had been specifically designed to induce negative moods. Assuming that positive affect had given rise to controlled processes compatible with positive mood maintainance, the data from these studies are understandable. Subjects chose

not to help in these ways because the act of providing such help might have destroyed their positive feelings. Some subjects in the Isen and Simmonds (1978) study actually verbalized this sentiment.

What about the many studies in which negative feeling states have been shown to increase helping? While they cannot be explained in terms of automatic processing, they can be understood in terms of controlled processes. It seems reasonable to think that most times, when people are in a negative feeling state, they would like to get out of that state, and they will search for activities that might make them feel better. According to the automatic processing component of our model, they should have a relatively hard time thinking of these activities, but according to the controlled process component, under many circumstances they should be likely to perform such an activity that is brought to their attention. Thus, if an experimenter presents the subject with the opportunity to engage in a mood-improving activity, as the experimenter did in the studies mentioned, the subject should be more likely to engage in such behavior than when not feeling "down." Is helping a potentially mood-improving activity? We think so. Our culture values helping, and there is evidence that under most circumstances providing help makes one feel good and/or is compatible with sustaining positive affect (Isen & Simmonds, 1978; Weiss, Buchanan, Alstatt, & Lombardo, 1971). Therefore, when a subject who is in a negative feeling state is given a chance to help in the course of an experiment, one might expect him/her to be likely to do so in order to alleviate that state (Cialdini et al., 1973).

Helping is certainly not the only behavior that might actively be used to alleviate a negative mood. Providing oneself with rewards may also be such a strategy. This may be why Underwood et al. (1973), for example, found that negative feeling states increased children's self-reward, and why both positive and negative states have been shown to have effects on children's ability to delay gratification. Seeman and Schwarz (1974) and Schwarz and Pollack (1977) have shown that children in negative feeling states are more likely to choose a small immediate reward over a larger delayed reward than are children in positive feeling states. Further, a study by Mischel, Ebbesen, and Zeiss (1973) shows that children's feeling states while actually waiting for a large reward affect the length of time that the child will wait. Children in a positive feeling state were able to wait more than twice as long as children in negative feeling states. Finally, Fry (1975) has shown that children in negative feeling states have a more difficult time resisting a temptation to play with a toy than children in a positive feeling state. Clearly, one can see the effects of self-indulgence as a strategy of negative-state relief here, but the findings can best be understood as resulting from a combination of automatic and controlled processing.

As the authors themselves point out, in the Seeman and Schwarz (1974) and in the Schwarz and Pollack (1977) studies, it is possible that the children in the negative-state condition in their studies, faced with a choice between receiving a small benefit now or a large one later, consciously chose the immediate small one in an effort to alleviate their negative feelings. However, this would not explain the difference between conditions in delay behavior, because subjects in positive feeling state conditions should also have been likely to have chosen a small reward right away, in order to maintain their positive feelings. This is where automatic processes may play a role in concert with these controlled processes. That is, *automatic processes* may make the wait for a larger reward seem more aversive to people in a negative feeling state than to people in a positive feeling state, because while waiting the former will have negative thoughts more accessible, while the latter will have better access to positive. Mischel and his colleagues, in a number of studies, have focused on the importance for delay behavior of what the child thinks about, attends to, or imagines while waiting. [See Mischel and Baker (1975) and Mischel and Moore (1973) for a discussion of the role of thought and attention in delay.] Thus the direction of thought and attention provided by the automatic processes which attend affective states may contribute to the eventual delay behavior observed. In addition, Mischel and his colleagues point out the importance of the strategies which the child uses for the purpose of delaying. In the case of affective state, the automatic processes to which we refer may also act to influence delay behavior by affecting the accessibility of various strategies.

In summary, then, the use of controlled strategies or controlled strategies operating in conjunction with automatic processes helps us to understand the observed effects of feeling states on behaviors that were not easily explained in terms of automatic processing alone.

Controlled vs Automatic Processing

So far we have discussed controlled and automatic processing primarily as if they were separable. We have presented one set of results as being interpretable in terms of automatic processes, and we have understood the remaining studies in terms of controlled processes. However, as we saw toward the end of the last section, this separation is artificial. Assuming that both types of processes exist, it is probable that they jointly determine many of the effects that feeling states have on impressions and on behavior, as we suggested, for example, in discussing the effect of feelings on delay of gratification. Sometimes both automatic and controlled processes can be expected to contribute to the same behavior, and sometimes each will contribute to an opposite effect.

The two types of processes we have postulated are most likely to contribute to the same effects in the case of positive feeling states and positive behavior. Both lead to the prediction that a person will think positive thoughts and behave in a positive manner. Recall our earlier example of the person who has just received an unexpected promotion at work. He feels good. The automatic processes we have postulated would suggest that he would be more likely to think of behaviors that have a positive feeling tone linked with them. Since he is in a positive

feeling state, and since going out has a positive feeling tone associated with it, the threshold for thinking about going out should be lowered, and the chances of him thinking of going out and actually doing so should be enhanced. Note that we make the same prediction on the basis of controlled processing. If the person feels good and wishes to maintain his mood, he may focus on things which make him feel good, think of going out, and consequently be more likely to do so. Further, we might note that both controlled and automatic processing should be influenced in a similar manner by what is occurring in the person's environment. If a friend calls the man and suggests going bowling, a favorite activity, both automatic and controlled processing would be compatible with the possibility that bowling would become a likely activity for the evening.

It is in the case of negative feeling states that automatic and controlled processes are most likely to lead to differential predictions. For instance, although going out with friends might be a good strategy (control process) for cheering up, this possibility may not occur (automatic process) to the downhearted. Even after the possibility is suggested to a person who is feeling bad, however, he or she may not be as likely to act on it. Consider a man in a negative feeling state who is asked by some friends to go out to see a movie. On the basis of automatic processing we might predict that he will be more likely to think about what a hassle it is to go out, how sometimes his friends are boring, and that movies about which one knows nothing beforehand often turn out to be bad. On this basis, we might suspect that such a person would be less likely to go than would a person in a positive feeling state, even after the possibility is brought to mind for him by someone else. This, then, is the same prediction that would be made on the basis of the automatic process. However, an alternative prediction is also possible: Suppose that the man, seeing no possibility of change if he stays home, intentionally focuses on the ways in which accepting his friend's invitation might make him feel better. He may think about the fact that it's often fun to be with his friends, that the movie just might be good, and that, in any case, it is likely to distract him from his negative feelings. Further, this intentional focus may block material that is being activated through automatic processes from coming to mind. Thus, on the basis of the possibility of such controlled processing, we might predict that a person in a negative feeling state, like one in a positive feeling state, would be *more* likely than others to accept such an invitation. This prediction is opposite to that which one would make on the basis of the automatic process.

This brings us to the problem of how one can predict behavior or impressions in cases where our postulated automatic and controlled processes lead to different predictions. It is in this context that the automatic-process/controlled-process conceptualization may be most useful, since differences between the two types of process may suggest bases for prediction. For example, controlled processes require effort. Thus we might expect that factors that can affect the willingness of a person to put effort into terminating a negative state might be crucial

determinants of whether the effects of automatic or controlled processes predominate. Thus fatigue may make a person less likely to employ a strategy in order to overcome the effects of feeling bad.

For another example, it may be that attempts that failed at getting out of a negative mood in the past may make one less likely to attempt to get out of such a state in the present. Thus we might predict that the effects of automatic processes might predominate over the effects of controlled processes for people who have failed in strategic efforts to alleviate their negative feeling states in the past. Seligman and his colleagues (Seligman, 1975) make an argument compatible with this line of reasoning in their "learned helplessness" interpretation of depression. They argue that depressed persons do not "cope" (our analysis would say, "employ a controlled process") with depression because they have come to expect, through learning in the past, that their efforts fail and that they are "helpless."

It may also be that simply being overworked or distracted may reduce the likelihood of controlled processes being invoked. It is especially interesting that Hasher and Zacks (1979) have noted and provided evidence that depression, stress, and old age are all variables that reduce one's capacity for effortful, or what we call controlled, processes, while not interfering with automatic processing. For this reason, we would expect that depression, stress, and old age would reduce the probability that controlled processes will mediate the effects of feeling states on impressions and behavior, and would increase the probability of the effects of automatic processing prevailing. Attempts to work with these persons might attend to the effects of automatic processes, and also specifically try to arm the depressed, the elderly, and those under stress with effective strategies for combating their negative state, as suggested by Beck and his colleagues (1967, 1976).

The same may hold true for those who are very young—they may not have had a chance to develop strategies for alleviating negative states or maintaining positive states. This suggestion is compatible with the findings of Cialdini and Kenrick (1976), that very young children were not as likely as older children or adults to help others when they themselves were in a negative feeling state. Not having well-developed controlled processes or strategies for coping with feeling states, young children may be more at the mercy of the automatic processes triggered by these states, and they may need help in altering them (in settling down, as well as in cheering up). Of course, *automatic* processes associated with feeling states may have less of an impact on young children than on older people, too, since young children may not have had the experiences necessary to build extensive interconnections between similarly toned material in memory.

Thus the cognitive and behavioral effects of feeling states may be less extensive in general for young children. This latter suggestion may help us to understand our informal observation of the ease with which young children, in contrast to adolescents, adults, and even older children, appear to move from one feeling state to another. They can laugh hap-

pily one minute, cry bitterly the next, and then be clowning and laughing again, within the space of a few minutes. Most adults do not do this. Indeed, having observed this phenomenon, adults are often heard to wonder aloud how genuine or profound children's affective states are. It may well be that there are other reasons for this situation (distraction, which is related to these notions but not precisely synonymous with them, may play a role in some cases), but one possible aspect of importance may be that children are only in the process of developing, and therefore have relatively underdeveloped cognitive mechanisms for dealing with feelings. This limited cognitive role in feelings may account for both aspects of the apparent paradox: children seem, on the one hand, more vulnerable to feelings, more affected by them or less able to resist them or cope with them, but at the same time, on the other hand, they also seem less profoundly or extensively or long-lastingly affected by them.

Interactions Between Conscious Strategies and Automatic Processes

Not only may automatic and controlled processes act in concert to determine behavior as described above, but they may also influence each other directly. It is easy to see how automatic processes may influence the direction and outcome of the search for strategies or plans for behavior, through priming, in the same way that they influence other items that come to mind.

The case for controlled processing influencing automatic processes may need a bit more explication, however. First, it has already been noted that controlled processes or strategies may prevent material activated by simultaneously occurring automatic processes from "coming to mind" (Posner & Snyder, 1975, p. 65). This too is relatively straightforward. In addition, however, it may also be possible that some conscious strategies (for example, some that may result from a positive feeling state) may *facilitate* automatic processes, helping to cue similarly toned material, and thus enhance positive feelings. That is, over many instances, a conscious strategy to maintain a positive feeling state may have an impact on the extent and strength of interconnections between similarly toned material in memory, and a person may come to associate a greater amount of material with positive feelings. If people in a positive feeling state wish to maintain that state, they may consciously focus on positive material in memory or choose to perform behaviors that have made them feel good in the past. In this way, the positive material focused on, or the positive behavior performed, may become associated with the event that induced the positive feeling state in the first place, and this should result in the establishment of many interconnections of positive material in memory. These extensively developed interconnections should then result in an increased effect when *automatic* processes are later triggered by positive affect; and this enhancement of the automatic processing effect would be attributable to the earlier employment of the controlled process.

Assuming that people do not try to maintain negative feeling states, conscious strategies should not increase interconnections between negative material in memory. Indeed, people experiencing negative feeling states may actively avoid thinking about negative material, instead choosing to focus their attention on things that might alleviate their feeling state. We have reason to expect there to be more and stronger interconnections between positive, relative to negative, material stored in memory, a fact which would account in part for the observation noted earlier of the slight general bias toward the positive found in many cognitive measurements. This fact also holds broader implications for attention and cognition generally and in particular for the effect of positive feeling states on attention and cognition.

SUMMARY

In this chapter we have proposed a framework for understanding the processes through which feeling states affect impressions and behavior. This framework extends ideas set forth earlier by Isen (1975) and expanded in papers by Levin and Isen (1975), Isen et al. (1978), and Isen and Simmonds (1978). Basically, it has been proposed that, taken together, two general types of processes may account for the effects that feeling states have been shown to have on impressions and behavior.

First, automatic processes were proposed. When a person is experiencing a feeling state, thoughts or events associated with or responsible for that feeling state may "automatically," without intention, without awareness, and without interfering with other ongoing processes, cue similarly toned material in memory. We have proposed that this "priming" of compatible material happens in the case of both positive and negative feelings, although not necessarily to an equal extent. In the case of positive feelings, the result is that people seem to view the world through "rose-colored glasses" and to behave in a positive manner. In the case of negative feeling states, in parallel fashion, the resultant tendency is to form negative impressions and to behave in an antisocial manner. However, the effects that negative feelings may have through such automatic processes may be more limited than those that positive feelings have, because the interconnections of negative material in memory may be fewer and weaker.

The second general category of processes through which feeling states may affect behavior are controlled processes. These are more effortful processes such as "sets" or even more elaborate conscious strategies a person intentionally uses to maintain a positive feeling state or to alleviate a negative one. (Although automatic processes may influence the accessibility of various strategies under certain conditions—as when, for example, negative feelings may interfere with the accessibility of effective coping strategies—people may consciously learn or be taught to respond with appropriate strategies by treating undesired states as cues for those strategies.) Thus, while automatic processes may influence

thought and action, it is also true that controlled processes may be used to counter, "block," or attenuate the effects of automatic processes.

In most cases, we have seen, controlled and automatic processes would be expected to lead to the same predictions regarding effects of positive feeling states. They would be expected to work against each other, however, in the case of negative feeling states. For instance, whereas a consideration of automatic processes would lead one to predict decreased helping by a person in a negative feeling state, a consideration of conscious processing would lead one to predict increased helping. Thus, too, one would expect that individuals with little experience with conscious strategies or with using conscious strategies to govern automatic processes (say, young children) would be less likely to help when feeling bad. Moreover, consideration of variables affecting the amount of effort a person is able or motivated to invest in controlled strategies and of variables affecting the learning of such strategies may provide answers to questions concerning when negative feeling states will lead to lessened prosocial behavior.

Finally, we have suggested ways in which the automatic process proposed to accompany feeling states can be viewed in the context of the currently popular theory of "spreading activation," or in terms of Wyer and Srull's "storage bin" model of memory, as illustrations of the way in which feelings might affect impressions and behavior.

A Return to the Problem of Definition

"Positive" and "negative" feeling states have been the focus of this chapter. Does this mean that we feel that there are no distinctions to be made within these categories? Of course we recognize that there are distinctions to be made among the so-called "negative" states and among the so-called "positive" states: between anxiety and sadness, between contentment and joy. Furthermore, we think that the differences between such states can be understood within the framework we have set forth in earlier work: their development, differentiation, and cognitive effects will depend on what they make a person think about, what they cue; and their behavioral effects will depend on the combination of this and the strategies that the person has available for enjoying them or coping with them.

We have chosen to speak of positive and negative feeling states, rather than of the more specific states induced or of foci of attention, because we feel that, at least for the present, this may be a useful level of analysis. First, we would agree with those who suggest that there is not yet enough information to allow for more detailed differentiation of emotional states. Scholars in the field of emotion do not agree on even the basis upon which such differentiation should begin; nor are the "emotions" to be included obvious. As Mandler (1975) points out, there is no reason to expect that the common language classification of emotion will serve as an adequate tool for the scientific analysis of emotion. Further, he notes that there is neither logical necessity of, nor evidence for, a single, unified theory of emotion. Thus it may be that for low-

intensity feeling states of the kind we have been discussing, general valence may be the appropriate level of representation. Leventhal (1974), in fact, makes just such a suggestion on the basis of data indicating the possibility of innate perceptual mechanisms that are sensitive to specific stimulus features and that give rise to feelings of pleasantness or unpleasantness before more specific expressive reactions based on interpretation are elicited.

In addition, earlier we made what may turn out to be a rather arbitrary distinction between feeling states and emotions. Among other things, we said that emotions disrupt onging behaviors, are tied to specifiable objects and behaviors, and involve arousal, while feeling states do not disrupt ongoing behaviors, influence a great variety of behaviors, and may or may not involve arousal. While these distinctions are more or less valid, and while some authors (e.g., Leventhal, 1974) may eventually want to argue that they *are* different in kind or that they are processed differently, it may not be that feeling states and emotions are completely distinct. The apparent differences may be quantitative rather than qualititive, for example. Nonetheless, the distinction has had heuristic value for purposes of this chapter. It has allowed us to get away from the idea that only emotions have effects on behavior, that feeling states do not. It has also permitted us to consider how feeling states might affect impressions and behavior without our having to appeal to "arousal." On the other hand, there is the possibility that low-level affective states really are different from more intense affect in their information-processing requirements and effects, as suggested above; and our distinction has allowed us to consider this possibility.

We have presented evidence that everyday feelings influence social behavior and cognition, and we have suggested that affective states might profitably be looked at in terms of cognitive processes or their impact on cognitive processes. We hope this will not seem a jarring betrayal of concern with affect or an unorthodox disregard of the time-honored tradition that divides mind or psychological experience into three separate domains—cognitive, conative (motivational/behavioral), and affective. We do not make this proposal because we believe that everything can be reduced to cognitive processes (what some have called "cognitive imperialism"). Rather we make it for its potential utility in suggesting directions for research in understanding affective processes. This reemphasizes the suggestion made elsewhere in this volume (Isen and Hastorf, this volume) that an understanding of affect will not involve only the singling out of affect for study, but also the integration of affect into that which is already known of psychological process. We hope that the kind of analysis that we have made will not be interpreted mechanistically nor as an end-point, but as a suggestion intended to facilitate examination of some new directions and propositions about affect that might otherwise not be apparent.

We would point out that the tripartite division of mind was not intended to segregate aspects of mental events or experience from one another. Rather, the thinkers of the Age of Enlightenment who spoke of that trilogy were concerned with integration of these components, or at

least with realization of the ultimate unity of psychological experience or process. (See Isen and Hastorf, this volume.) The psychologists who followed them often simply assumed this integration, although sometimes they described it specifically. McDougall (1923), for example described a sequentially integrated process; we have chosen a different way of integrating these components. We have offered a cognitive interpretation of some of the phenomena attending affect, and we like to think that those earlier scholars would have considered this in keeping with the spirit, if not the form, of their unified approach to psychological experience.

REFERENCES

Aderman, D. Elation, depression and helping behavior. *Journal of Personality and Social Psychology*, 1972, *24*, 91 –101.

Anderson, J. R. *Language, memory and thought*. Hillsdale, N.J.: Erlbaum, 1976.

Anderson, J. R., & Bower, G. H. *Human associative memory*. Washington, D.C.: Winston, 1973.

Arnold, M. B. Perennial problems in the field of emotion. In M. B. Arnold (Ed.), *Feelings and Emotion*. New York: Academic, 1970.

Baron, R. A., & Bell, P. A. Aggression and heat: The influence of ambient temperature, negative affect, and a cooling drink on physical aggression. *Journal of Personality and Social Psychology*, 1976, *33*, 245 –255.

Batson, C. D., Coke, J. S., Chard, F., Smith, D., & Taliaferro, A. Generality of the "Glow of goodwill": Effects of mood on helping and information acquisition. *Social Psychology Quarterly*, 1979, *42*, 176 –179.

Beck, A. T. *Depression: Clinical, experimental and theoretical aspects*. New York: Harper & Row, 1967.

Beck, A. T. *Cognitive therapy and the emotional disorders*. New York: International Universities Press, 1976.

Berkowitz, L. Social norms, feelings, and other factors affecting helping and altruism. In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology*, Vol. 6. New York, Academic, 1972.

Berkowitz, L., & LePage, A. Weapons as aggression-eliciting stimuli. *Journal of Personality and Social Psychology*, 1967, *7*, 202 –207.

Boucher, J., & Osgood, C. E. The pollyanna hypothesis. *Journal of Verbal Learning and Verbal Behavior*, 1969, *8*, 1 –8.

Bousfield, W. A. An empirical study of the production of affectively toned items. *Journal of General Psychology*, 1944, *30*, 205 –215.

Bousfield, W. A. The relationship between mood and the production of affectively toned associates. *The Journal of General Psychology*, 1950, *42*, 67 –85.

Bower, G. H., Monteiro, K. P., & Gilligan, S. G. Emotional mood as a context for learning and recall. *Journal of Verbal Learning and Verbal Behavior*, 1978, *17*, 573 –585.

Brady, J. V. Emotion: Some conceptual problems and psychophysiological experiments. In M. B. Arnold (Ed.), *Feelings and emotions: The Loyola symposium*. New York; London: Academic, 1970.

Bransford, J. D., Franks, J. J., Nitsch, K. E., & McCarrell, N. S. Toward unexplained memory. In R. Shaw & J. Bransford (Eds.), *Perceiving, acting and knowing: Toward an ecological psychology*. Hillsdale, N.J.: Erlbaum, 1977.

Brown, A. S. Priming effects in semantic memory retrieval process. *Journal of Experimental Psychology: Human Learning and Memory*, 1979, *5*, 65 –77.

Buck, R. Nonverbal behavior and the theory of emotion: The facial feedback hypothesis. *Journal of Personality and Social Psychology*, 1980, *38*, 811 –824.

Carlsmith, J. M., & Gross, A. Some effects of guilt on compliance. *Journal of Personality and Social Psychology*, 1969, *11*, 240 –244.

Cialdini, R. B., & Kenrick, D. T. Altruism as hedonism: A social development perspective on the relationship of negative mood state and helping. *Journal of Personality and Social Psychology*, 1976, *34*, 907 –914.

Cialdini, R., Darby, B., & Vincent, J. Transgression and altruism: A case for hedonism. *Journal of Experimental Social Psychology*, 1973, *9*, 502 –516.

Collins, A. M., & Loftus, E. F. A spreading-activation theory of semantic processing. *Psychological Review*, 1975, *82*, 407 –428.

Collins, A. M., & Quillian, M. R. How to make a language user. In E. Tulving & W. Donaldson (Eds.) *Organization of memory*. New York: Academic, 1972.

Cunningham, M. R., Steinberg, J., & Grev, R. Wanting to and having to help: Separate motivations for positive mood and guilt-induced helping. *Journal of Personality and Social Psychology*. 1980, *38*, 181 –192.

Darwin, C. *The expression of the emotion in man and animals*. New York: Appleton, 1890.

Davitz, J. R. A dictionary and grammar of emotion. In B. Arnold, *Feelings and emotions: The Loyola symposium*. New York; London: Academic, 1970.

Donnerstein, E., Donnerstein, M., & Munger, G. Helping behavior as a function of pictorially induced moods. *Journal of Social Psychology*, 1975, *97*, 221 –225.

Dribbin, E., & Brabender, V. The effect of mood inducement upon audience receptiveness. *The Journal of Social Psychology*, 1979, *107*, 135 –136.

Feather, N. T. Effects of prior success and failure on expectations of success and subsequent performance. *Journal of Personality and Social Psychology*, 1966, *3*, 287 –298.

Fiske, S. T. Attention and weight in person perception: The impact of negative and extreme behavior. *Journal of Personality and Social Psychology*, 1980, *38*, 889 –906.

Forest, D., Clark, M. S., Mills, J., & Isen, A. M. Helping as a function of feeling state and nature of the helping behavior. *Motivation and Emotion*, 1979, *3*, 161 –169.

Fry, P. S. Affect and resistance to temptation. *Developmental Psychology*, 1975, *11*, 466 –472.

Galizio, M., & Hendrick, C. Effect of musical accompaniment on attitude: The guitar as a prop for persuasion. *Journal of Applied Social Psychology*, 1972, *2*, 350 –359.

Gouaux, C. Induced affective states and interpersonal attraction. *Journal of Personality and Social Psychology*, 1971, *20*, 37 –43.

Griffitt, W. B. Environmental effects on interpersonal affective behavior: Ambient effective temperature and attraction. *Journal of Personality and Social Psychology*, 1970, *15*, 240 –244.

Hale, W. D., & Strickland, B. R. Induction of mood states and effect on cognitive and social behaviors. *Journal of Consulting and Clinical Psychology*, 1976, *44*, 155.

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

Henry, C. M., Weingartner, H., & Murphy, D. L. Influence of affective states and psychoactive drugs on verbal learning and memory. *American Journal of Psychiatry*, 1973, *130*, 966 –971.

Higgins, E. T., & Chaires, W. M. Accessibilty of interrelational constructs: Implications for stimulus encoding and creativity. *Journal of Experimental Social Psychology*, 1980, *16*, 348 –361.

Higgins, E. T., & King, G. Accessibility of social constructs: Individual and interpersonal considerations. In N. Cantor & J. F. Kihlstrom (Eds.), *Personality, Cognition and Social Interaction*. Hillsdale, N.J.: Erlbaum, 1981.

Isen, A. M. Success, failure, attention and reactions to others: The warm glow of success. *Journal of Personality and Social Psychology*, 1970, *15*, 294 –301.

Isen, A. M. Positive affect, accessibility of cognitions and helping. In J. Piliavin (Chair), *Current directions in theory on helping behavior*. Symposium presented at the meeting of the Eastern Psychological Association, New York, 1975.

Isen, A. M., & Levin, P. F. The effect of feeling good on helping: Cookies and kindness. *Journal of Personality and Social Psychology*, 1972, *21*, 384 –388.

Isen, A. M., & Shalker, T. E. Do you "Accentuate the positive, eliminate the negative" when you are in a good mood? Unpublished manuscript, University of Maryland, Baltimore County, 1977.

Isen, A. M., & Simmonds, S. F. The effect of feeling good on a helping task that is incompatible with good mood. *Social Psychology*, 1978, *41*, 345 –349.

Isen, A. M., Clark, M., & Schwartz, M. F. Duration of the effect of good mood on helping: "Footprints on the sands of time." *Journal of Personality and Social Psychology*, 1976, *34*, 385 –393.

Isen, A. M., Shalker, T., Clark, M., & Karp, L. Affect, accessibility of material in memory and behavior: A cognitive loop? *Journal of Personality and Social Psychology*, 1978, *36*, 1 –12.

Jacobson, J. Z. Effects of association upon masking and reading latency. *Canadian Journal of Psychology*, 1973, *27*, 58 –69.

Janis, I. L., Kaye, D., & Kirschner, P. Facilitating effects of "Eating while reading" on responsiveness to persuasive communications. *Journal of Personality and Social Psychology*, 1965, *11*, 188 –186.

Jenkins, J. J. Remember that old theory of memory? Well, forget it! *American Psychologist*, 1974, *29*, 785 –795.

Laird, J. Self-attribution of emotion: The effects of expressive behavior on the quality of emotional experience. *Journal of Personality and Social Psychology*, 1974, *29*, 475 –486.

Lanzetta, J. T., Cartwright-Smith, J., & Kleck, R. E. Effects of nonverbal dissimulation on emotional experience and autonomic arousal. *Journal of Personality and Social Psychology*, 1976, *33*, 354 –370.

Latané, B., & Darley, J. M. *The unresponsive bystander: Why doesn't he help?* New York: Appleton-Century-Crofts, 1970.

Leventhal, H. Emotions: A basic problem for social psychology. In C. Nemeth (Ed.), *Social psychology: Classic and contemporary interactions*, New York: Rand McNally, 1974.

Levin, P. F., & Isen, A. M. Something you can still get for a dime: Further studies on the effect of feeling good on helping. *Sociometry*, 1975, *38*, 141 –147.

Loftus, E. F., Activation of semantic memory. *American Journal of Psychology*, 1973, *86*, 331 –337.

Loftus, G. R., & Loftus, E. F. The influence of one memory retrieval on a subsequent memory retrieval. *Memory and Cognition*, 1974, *2*, 467 –471.

Mandler, G. *Mind and emotion.* New York: Wiley, 1975.

Mansfield, K. "Bliss." In K. Mansfield (Ed.), *Bliss and other stories.* New York: Knopf, 1920.

Masters, J. C., & Furman, W. Effects of affect states on noncontingent outcome expectancies and beliefs in internal or external control. *Developmental Psychology*, 1975, *12*, 481 –482.

Matlin, M., & Stang, D. *The pollyanna principle: Selectivity in language, memory and thought.* Cambridge, Mass.: Schenkman, 1979.

McDougall, W. *Outline of psychology.* New York: Scribner, 1923.

McMillen, D. L. Transgression, self-image, and compliant behavior. *Journal of Personality and Social Psychology*, 1971, *20*, 176 –179.

Meyer, D. W., & Schvaneveldt, R. W. Facilitation in recognizing pairs of words: Evidence of a dependence between retrieval operations. *Journal of Experimental Psychology*, 1971, *90*, 227 –234.

Mischel, W. Processes in delay of gratification. In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology*, Vol. 7, New York: Academic Press, 1974.

Mischel, W., & Baker, N. Cognitive appraisals and transformations in delay behavior. *Journal of Personality and Social Psychology*, 1975, *31*, 254 –261.

Mischel, W., & Moore, B. Effects of attention to symbolically presented rewards upon self-control. *Journal of Personality and Social Psychology*, 1973, *28*, 172 –179.

Mischel, W., Coates, B., & Raskoff, A. Effects of success and failure on self-gratification. *Journal of Personality and Social Psychology*, 1968, *10*, 381 –390.

Mischel, W., Ebbesen, E., & Zeiss, A. Selective attention to the self: Situational and dispositional determinants. *Journal of Personality and Social Psychology*, 1973, *27*, 129 –142.

Moore, B. S., Underwood, B., & Rosenhan, D. L. Affect and altruism. *Developmental Psychology*, 1973, *8*, 99 –194.

Neely, J. H. Semantic priming and retrieval for lexical memory: Evidence for facilatory and inhibitory processes. *Memory and Cognition*, 1976, *4*, 648 –654.

Neely, J. H. Semantic priming and retrieval from lexical memory: Roles of inhibitionless spreading activation and limited-capacity attention. *Journal of Experimental Psychology: General*, 1977, *106*, 226 –254.

Nowlis, V. Mood: Behavior and experience. In M. B. Arnold (Ed.), *Feelings and emotions: The Loyola symposium*, New York; London: Academic, 1970.

Piliavin, I. M., Rodin, J., & Piliavin, J. A. Good samaritanism: An underground phenomenon? *Journal of Personality and Social Psychology*, 1969, *13*, 289 –299.

Posner, M. I. *Chronomatic explorations of the mind.* Hillsdale, N.J.: Erlbaum, 1978.

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

Postman, L., & Brown, D. R. Perceptual consequences of success and failure. *Journal of Abnormal and Social Psychology*, 1952, *47*, 213 –221.

Raps, C. S., Reinhard, K. E., & Seligman, M. E. P. Reversal of cognitive and affective deficits associated with depression and learned helplessness by mood elevation in patients. *Journal of Abnormal Psychology*, 1980, *89*, 342 –349.

Regan, D. T., Williams, M., & Sparling, S. Voluntary expiation of guilt: A field experiment. *Journal of Personality and Social Psychology*, 1972, *24*, 422 –445.

Regan, J. W. Guilt, perceived injustice and altruistic behavior. *Journal of Personality and Social Psychology*, 1971, *18*, 124 –132.

Rodgers, R., & Hammerstein, O. II. *The king and I.* New York: Williamson Music Co., Inc., 1951.

Rodgers, R., & Hammerstein, O. II. *The sound of music.* New York: Williamson Music Co., Inc., 1959.

Rosch, E. Cognitive reference points. *Cognitive Psychology*, 1975, *1*, 532 –547.

Ryle, G. *The concept of mind.* London: Hutchinson, 1950.

Schachter, S., & Singer, J. Cognitive, social and physiological determinants of emotional state. *Psychological Review*, 1962, *65*, 379 –399.

Schiffenbauer, A. Effect of observer's emotional state on judgments of the emotional state of others. *Journal of Personality and Social Psychology*, 1974, *30*, 1, 31 –35.

Schneider, D. J., Hastorf, A. H., & Ellsworth, P. C. *Person perception*, Reading, Mass.: Addison-Wesley, 1980.

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

Schwarz, J. C., & Pollack, P. R. Affect and delay of gratification. *Journal of Research in Personality*, 1977, *11*, 147 –164.

Seeman, G., & Schwarz, J. C. Affective state and preference for immediate versus delayed reward. *Journal of Research in Personality*, 1974, *7*, 384 –394.

Seligman, M. E. P. *Helplessness. On depression, development, and death.* San Francisco, Calif.: Freeman, 1975.

Shiffrin, R. M., & Schneider, W. Controlled and automatic human information processing: II. Perceptual learning, automatic attending, and a general theory. *Psychological Review*, 1977, *84*, 127 –190.

Simon, H. A. Motivational and emotional controls of cognition. *Psychological Review*, 1967, *74*, 29 –39.

Strickland, B. R., Hale, W. D., & Anderson, L. K. Effect of induced mood states on activity and self-reported affect. *Journal of Consulting and Clinical Psychology*, 1975, *43*, 587.

Teasdale, J. D., & Bancroft, J. Manipulation of thought content as a determinant of mood and corrugator electromyographic activity in depressed patients. *Journal of Abnormal Psychology*, 1977, *86*, 235–241.

Teasdale, J. D., & Fogarty, S. J. Differential effect of induced mood on retrieval of pleasant and unpleasant events from episodic memory. *Journal of Abnormal Psychology*, 1979, *88*, 248–257.

Tesser, A., & Conlee, M. C. Some effects of time and thought on attitude polarization. *Journal of Personality and Social Psychology*, 1975, *31*, 262–270.

Tourangeau, R., & Ellsworth, P. C. The role of facial response in the experience of emotion. *Journal of Personality and Social Psychology*, 1979, *37*, 1519–1531.

Tulving, E. Episodic and semantic memory. In E. Tulving & W. Donaldson (Eds.), *Organization of memory*. New York: Academic, 1972.

Tulving, E., & Pearlstone, Z. Availability versus accessibility of information in memory for words. *Journal of Verbal Learning and Verbal Behavior*, 1966, *5*, 381–391.

Tversky, A., & Kahneman, D. Availability: A heuristic for judging frequency and probability. *Cognitive Psychology*, 1973, *5*, 207–32.

Underwood, B., Moore, B. S., & Rosenhan, D. L. Affect and self-gratification. *Developmental Psychology*, 1973, *8*, 209–214.

Underwood, B., Froming, W., Moore, B. Mood, attention, and altruism: A search for mediating variables. *Developmental Psychology*, 1977, *13*, 541–542.

Veitch, R., & Griffitt, W. Good news—bad news: Affective and interpersonal effects. *Journal of Applied Social Psychology*, 1976, *6*, 69–75.

Warren, R. E. Time and the spread of activation in memory. *Journal of Experimental Psychology: Human Learning and Memory*, 1977, *4*, 458–466.

Weiner, B. A cognitive (attribution)-emotion-action model of motivated behavior: An analysis of judgment of help-giving. *Journal of Personality and Social Psychology*, 1980, *39*, 186–200.

Weiner, B., Russell, D., & Lerman, D. The cognition-emotion process in achievement-related contexts. *Journal of Personality and Social Psychology*, 1979, *37*, 1211–1220.

Weingartner, H., & Faillace, L. A. Alcohol state-dependent learning in man. *Journal of Nervous and Mental Disease*, 1971, *153*, 395–406.

Weingartner, H., Miller, H., & Murphy, D. L. Mood-state-dependent retrieval of verbal associations. *Journal of Abnormal Psychology*, 1977, *86*, 276–284.

Weiss, R. F., Buchanan, W., Alstatt, L., & Lombardo, J. P. Altruism is rewarding. *Science*, 1971, *26*, 1262–1263.

Wessman, A. E., & Ricks, D. F. *Mood and personality*. New York: Holt, Rinehart and Winston, 1966.

Weyant, J. M. Effects of mood states, costs, and benefits of helping. *Journal of Personality and Social Psychology*, 1978, *36*, 1169–1176.

White, M. M. Some factors influencing the recall of pleasant and unpleasant words. *American Journal of Psychology*, 1936, *48*, 134–139.

White, M. M., & Powell, M. The differential reaction time for pleasant and unpleasant words. *American Journal of Psychology*, 1936, *48*, 126–133.

Wyer, R. S. Jr., & Srull, T. K. Category accessibility: Some theoretical and empirical issues concerning the processing of social stimulus information. In E. T. Higgins, C. P. Herman, & M. P. Zanna (Eds.), *Social cognition: The Ontario symposium on personality and social psychology*. Hillsdale, N.J.: Erlbaum, 1981.

Zajonc, R. B. The attitudinal effects of mere exposure. *Journal of Personality and Social Psychology Monograph Supplement*, 1968, *9* (2, pt.2).

Zillmann, D., Mody, B., & Cantor, J. R. Empathic perception of emotional displays in films as a function of hedonic and excitatory state prior to exposure. *Journal of Research in Personality*, 1974, *8*, 335–349.