The effects of transient mood states on memory and judgment were first investigated by researchers in the early part of this century (reviewed by Rapaport, 1942). Following several decades during which the topic was viewed as tangential to the goals of a behavioristic science, researchers once again have returned to the study of mood states and their cognitive consequences (see recent reviews by Blaney, 1986; Isen, 1984; Mayer & Salovey, in press). Many of these investigators have conducted experiments in the service of some theory of memory and/or emotion, most commonly Bower's Network Theory of Affect (Bower, 1981, derived from Anderson & Bower, 1973; Collins & Loftus, 1975). The implications of this research for clinical work, however, have not been elaborated, perhaps due to caution about the stability of findings in this area (e.g., Bower & Mayer, 1985). Moreover, this body of research has been published in journals directed toward experimental rather than clinical psychologists and so findings with obvious clinical relevance are easily overlooked. In essence, this rapidly proliferating literature suggests that memory for people and events seems to be systematically affected by mood in several different ways, namely, in attentional focus, selective encoding, and retrieval of information. These mood effects on memory can and often do result in distortions that might bias judgment.

In this chapter, we will discuss the influence of affect on the memory, judgment, and behavior of clinicians. It should be pointed out, however, that this is not the way feelings states that evolve during therapy are discussed typically. Clinicians probably always experience feelings dur-
ing the course of a therapy session. And, these feelings, at least according to some schools of psychotherapy, rather than serving as biasing influences on the course of therapy, are instead used as productive sources of information for the therapist. That is, the feelings aroused in the therapist during a therapeutic session are actively attended to and interpreted in the context of the relationship with the client. These feelings on the part of the clinician are usually thought of as part of the countertransference process, defined as the whole of the therapist’s feelings and conscious and unconscious reactions to the patient (Heimann, 1950; see also Singer, this volume). Further, it is sometimes assumed that the feelings a client can arouse in a therapist are similar to the feelings that significant others in the client’s environment might experience when dealing with this person. These feelings are then used as a tool in helping the therapist understand the client (Walrond-Skinner, 1986).

Most schools of psychotherapy, however, also emphasize the importance of gaining understanding of countertransference reactions and developing the maturity or skills necessary to distance oneself from the feelings generated by a therapy session (Kernberg, 1965). Psycho-dynamically oriented writers must have realized the potentially biasing impact of the therapist’s mood state in recommending that clinicians learn to regulate such feelings. It is possible that these writers recognized that affect can influence thought in less than optimal ways for effective assessment and psychotherapy.

Consider the following scenario. Dr. Joseph Doakes, a psychotherapist in private practice, buys a Lotto ticket on the way to his office one morning. When the winning numbers are announced at 10:00 A.M., he discovers that he has won a prize. His mood, at this point, shifts in the positive direction. He now sees his first client, whom he finds it especially easy to attend to and learns about the client’s success during the past week. However, Dr. Doakes finds that he does not attend to or encode any information about possible client failures. Later in the session, Dr. Doakes recalls an incident from a past session giving evidence for the client’s potential for further success. And, at the conclusion of the session, Dr. Doakes discovers that he can remember better something this client told him three weeks ago (the same day the good doctor found out his daughter did not need $5,000 worth of orthodontic work), but that he cannot remember much about last week’s session (which was also the day he filed his income tax return).

Because of his positive mood state, initiated by events external to the therapy, Dr. Doakes exhibits several common effects that mood has on the processing of information. These include the tendency to (a) learn material better when it is congruent in tone with one’s mood, (b) retrieve information from memory that is consistent in tone with one’s mood, and (c) more easily remember material when one’s mood state at the time of retrieval matches one’s original mood state at the time the information was encoded. This chapter will deal with these kinds of influences of affect on memory, explore mood influences on judgment, decision making, and behavior, and then very briefly describe ways that clinicians can try to minimize any detrimental impact that these influences may have on their clinical activities (but see also Arnauld and Anderson, this volume). First, however, we will place the affect—cognition question in a broader theoretical context.

Overview of Affect Vis-à-vis Cognition

For the last decade, psychologists have debated the role played by affect relative to cognitive activities. For example, Zajonc (1980, 1984) and Lazarus (1982) have argued vociferously about the priority of affect versus cognition in determining responses to stimuli. Zajonc has claimed that affective responses can occur in the absence of higher order cognitive processes. He supports this view by citing studies showing that individuals exhibit affective responses to stimuli they have seen so briefly that they are unaware of having experienced them. Zajonc also uses findings from such “mere exposure” experiments (1980) to support his view that affective experience is distinct from cognition and that the two represent separate systems (a view shared by Izard, 1972, 1977; and Tomkins, 1962, 1963). Lazarus, whose view is more consistent with the approach of cognitive behaviorally oriented clinicians, disputes Zajonc’s conclusions, proposing instead that affect arises out of a complex cognitive process requiring a series of appraisals (of stimuli) and judgments about them, although the individual need not be consciously aware of these appraisals.

Others (e.g., Bower, 1981; Clark & Isen, 1982) have attempted to integrate the workings of affect within information-processing paradigms without becoming entangled in the primacy of affect versus cognition debate. Bower, for example, believes that emotions and moods are central units (called “nodes”) in the network of ideas (called “propositions”) linked together by being associated in memory (see Figure 6–1 for an example). Still other researchers have discussed similar cognitively oriented views of the effects of affect on memory as well as on social behavior (e.g., Clark & Isen, 1982; Isen, 1984; Salovey & Rodin, 1985). These researchers argue that affective states increase the availability (i.e., ease of recall) of similarly toned thoughts, inferences, and judgments (see, in particular, Isen, Shalker, Clark, & Karp, 1978).

In Bower’s Network Theory of Affect (Bower, 1981; Bower & Cohen, 1982) mood states activate relevant associations in memory, priming other material linked to them. This process facilitates learning and recall.
of material that is consistent in emotional tone with the existing mood state (as Dr. Doakes discovered in the example described earlier). In the most comprehensive statement of this theory, Gilligan and Bower (1984) enumerate seven postulates: First, emotions are characterized as central units in memory, with many connections to related ideas, autonomic activity, muscular and expressive patterns, and events. Second, emotion-laden material is stored in the memory network in terms of subject—response—object idea units (e.g., Doakes wins lottery; Doakes feels happy). Third, thought emerges through the activation of these units within the network. Once one unit is stimulated in this way, material associated with it can also be primed, and, if raised above threshold, activated. Cognitive psychologists refer to this process as "spreading activation" (Collins & Loftus, 1975). Fourth, activation can be initiated by internal or external sources, including thought, physiological feedback, and environmental stimuli. Fifth, spreading activation is selective, reaching out primarily to associated memories and concepts. Sixth, associations among thoughts and ideas are formed during learning. When new material is learned, it is associated with whatever in memory is already active at the time. Seventh, "consciousness" consists of the network of associations activated at a given moment.

Research spawned by this theoretical tradition has identified several ways in which mood might affect memory. Each of these effects of mood on memory was illustrated in the Dr. Doakes example that opened this chapter. They will be defined more formally, however, here. The first will be called "encoding congruency" in this chapter, meaning that material congruent with one’s current affective state is encoded into memory more readily. The second effect we will describe will be referred to as "recall congruency," the relative ease with which one can recall information from memory that is affectively consistent with one’s current emotional state. A third common event is that material learned while in a particular affective state is better recalled when one is once again in that state, a phenomenon known as "state-dependent recall." Finally, there is a general tendency for material that is highly charged emotionally to be better learned and more easily recalled, the "mood intensity" effect.

Encoding Congruency

One can easily imagine the potentially biasing effects created by encoding congruency on the memory of clinicians. When a clinician’s mood is made more positive temporarily because a client indicates that the therapy is going well, the clinician may be more likely to disregard and consequently not encode information presented by the client that might arouse negative affect. The clinician, later, may recall a falsely positive view of the outcome of this therapy case as a result of the encoding congruency effect.

In addition, clinicians’ moods are affected by events outside the therapeutic hour. Like our Dr. Doakes, whose positive mood resulted from winning the lottery, therapists are more likely to encode information from clients that is consistent with their "extratherapeutic" mood states and to disregard mood-incongruent material.

In the laboratory, the encoding congruency effect has been found when subjects are induced to experience a particular mood and then read a story involving several characters. Later, once the mood has dissipated, subjects are better able to recall information about the character in the story whose affect is most like their own (Bower, Gilligan, & Monteiro, 1981). Bower et al. (1981) obtained their strongest effects using sad moods, but Nasby and Yando (1982) found that subjects were better able to recall positive information learned when they were happy than when they were sad or angry. The encoding congruency effect has been more difficult to observe using natural (rather than induced) changes in mood (e.g., Hasher, Rose, Zacks, Sanft, & Doren, 1985), but such studies have been criticized on methodological grounds (Mayer & Bower, 1985), because the naturally occurring mood states studied thus far have not been especially intense (e.g., investigators have compared
normal individuals with Beck Depression Inventory Scores of 8 and above with individuals scoring below 8; a borderline clinical depression is usually not indicated by scores lower than 17, according to Burns, 1980).

**Recall Congruency**

The tendency to recall information that is consistent with one's mood state has been confirmed using a variety of laboratory mood-induction procedures—mood statements (e.g., Velten, 1968), self-generated imagery, and hypnosis—and several different dependent measures (e.g., autobiographical memory content, retrieval speed). The problems for clinicians created by the mood-congruency effect are fairly obvious. In preparing for a session, clinicians may be more likely to recall and therefore inquire about issues consistent with their current moods. These questions could then elicit mood-congruent responses from clients (see Snyder & Thomsen, this volume). Certainly, information about a client's behavior during a prior session that is congruent with the clinician's current mood would be easier to recall than mood-incongruent information. And, in diagnostic work, clinicians may be more likely to recall the negative signs and symptoms associated with a particular category of pathology when they, themselves, are feeling bad. When the clinician is experiencing a particular mood state, information is likely to be recalled that confirms hypotheses generated when the clinician was in a similar affective state.

In general, the largest differences have been observed comparing the recall of positive material in positive and negative moods (Teasdale & Fogarty, 1979; Teasdale & Russell, 1983; Teasdale & Taylor, 1981; Teasdale, Taylor, & Fogarty, 1980). The most common pattern in these laboratory studies is that happy moods facilitate the recall of positive memories and inhibit the recall of negative memories, while sad moods inhibit the recall of positive memories but have no particular effect on negative memories (e.g., Natale & Hantas, 1982). However, individuals do seem slower to dismiss an existing unpleasant thought when sad than when happy (Sutherland, Newman, & Rachman, 1982), and actual clinical depressives are much quicker to retrieve negative as compared to positive memories than are nondepressives (Lloyd & Lishman, 1975; but see Clark & Teasdale, 1985).

**State-dependent Recall**

As in any state-dependent phenomenon (Eich, 1980; Eich, Weingartner, Stillman, & Gillin, 1975), mood, too, can serve as a contextually based discriminatory cue such that when learning and recall contexts match, memory is facilitated, and when the two contexts differ, memory is inhibited (just as certain behaviors carried out while intoxicated are difficult to recall until one is once again intoxicated).

The state-dependent recall effect for positive and negative moods has been demonstrated in carefully designed experiments involving the learning of a first list of information (when in a mood state), a second interfering list, and then a recall task while in the same or opposing mood as originally induced (Bower, Monteiro, & Gilligan, 1978; Schare, Lishman, & Spear, 1984). Moreover, there is even some evidence that the mood-state-dependent effect is observed in bipolar depressives as they shift between manic and depressive states (Weingartner, Miller, & Murphy, 1977). That is, material learned while manic is easier to recall in a subsequent manic episode and harder to recall during a depressive cycle. The recall of material learned while depressed is facilitated by a subsequent depressive state and inhibited by a subsequent manic episode.

The affective state of the therapist during a session is probably partially influenced by the client's affect, because therapists are taught and encouraged to empathize with their clients and because such empathy is a common human response. As a result, we would expect therapists to have an easier time recalling information from past sessions that matches the client's affective state in the current session than information in a different vein. For example, details about the client's childhood revealed during a tearful session some time before might not be followed up (because the details are not recalled) until the next tearful session. In addition, a therapist's own, independently generated mood state might influence processing; a death in his or her own family might cause information in sessions conducted immediately after to be suppressed until a later tragic event returns the therapist to the negative state once again.

**Mood Intensity**

Historically, it has been observed that affectively intense memories are remembered more accurately and over longer periods of time than affectively flat memories (Dutta & Kanungo, 1967, 1975; Holmes, 1970; Kanungo, 1968; Kanungo & Dutta, 1966; Robinson, 1980). For example, Dutta and Kanungo (1975) found that the perceived affective intensity of different memories is the best predictor of which are recalled.

The mood-intensity effect can be observed commonly in the therapeutic situation. Clients present therapists with a range of material, probably quickly exceeding the therapists' ability to process it all. So, therapists often use certain heuristics or rules-of-thumb to decide to
which information they should carefully attend (cf. Turk & Salovey, 1985, 1986; Turk, Salovey, & Prentice, this volume), and one heuristic might be to listen carefully to material with a strong affective charge. But even if clinicians did not resort to this strategy in a conscious way, they might find that any material that arouses intense affect is, in fact, automatically better remembered. Once again, since clinicians tend to empathize with their clients, material that is affectively charged for the client is likely to create some congruent affect in the clinician, rendering it particularly memorable. For example, one of us (P.S.) can recall quite vividly a client who was particularly upset about the way she was treated by her husband. The case with which this memory is recalled is partially a function of the intense affect that this woman evoked in her clinician—in this case, the affect was anger at her husband. Now, this might be a bias that serves the clinician well in most cases. After all, affectively charged material probably should be attended to quite carefully. However, it seems possible that clinicians might not encode adequately important but affectively flat material (affectively flat because the client has repressed attached emotion or because the emotion has been dealt with adequately) and, hence, easily forget some important detail.

Judgment and Decision Making

So far, we have been considering the impact of affect on memory. But therapists must do more than encode and recall information. They must use this information as the basis for making inferences and judgments about clients and about the processes of assessment and therapy. Hence, the influence of affect on memory has an indirect influence on inference and judgment. In the laboratory, however, the ways in which affect influences inference, judgment, and decision making has been examined quite directly. And these studies serve to inform us, in particular, about the effects of mood on the taking of risks.

Nearly every serious decision a clinician makes—to hospitalize a patient, to ask a particular question, to refer a client elsewhere—involves an assessment of risk. This appraisal process seems vulnerable to influence by a clinician's ongoing mood state. Although some researchers have found a linear relationship between mood and judgment such that happy subjects take more risks than affectively neutral subjects, who, in turn, take more risks than sad subjects (Deldin & Levin, 1986), the relationship between mood, judgment, and decision making is probably more complex than this. For example, Isen, Means, Patrick, and Nowicki (1982) reported that although happy individuals might be more likely to take risks than those who are neutral or sad, this effect of mood on risk taking holds for only rather mild risks. When risk is high, positive mood do not want to risk ending their happy moods (Isen, 1985; Isen & Simmonds, 1978).

Isen et al. (1982) have identified the decision-making strategies used by individuals experiencing positive affect. Happy individuals are likely to reduce the complexity of the task and choose a simple decision-making strategy in order to engage in quick and simple kinds of cognitive processing (Isen & Daubman, 1984). Basically, Isen and her colleagues believe, positive affect “makes people tend to reduce the load on working memory” (p. 246). This reduction in memory load may occur because of the capacity required by the affect itself, or, perhaps, because—as noted above—individuals do not want to risk terminating their positive moods. When happy, people seem much more likely to use intuitive (and potentially error-prone) strategies as compared with more taxing, logical ones (Means, 1980, cited in Isen et al., 1982). They tend to “go with their gut.” Moreover, these decision-making strategies seem to have behavioral consequences. At least for hypothetical decisions, happy individuals are ready to make risky decisions, i.e., bet on a “long shot” (Isen & Patrick, 1983), although the desire to maintain a pleasant mood seems to inhibit this kind of risk taking when the decisions are real. In that situation, happy subjects tend to prefer milder risks.

When individuals are made sad, perhaps by experiencing or hearing about a tragic event, their perception of the frequency of risks and other undesirable events is increased, even if these are not related to their original tragic circumstances (Johnson & Tversky, 1983). Sad mood seems to cause a rather global shift in one's perceptions of the world, which is now seen as riskier and more dangerous than before. Johnson and Tversky (1983) asked subjects to read newspaper accounts of a fatal stabbing. Later, they were asked to estimate the frequency of a variety of grim occurrences such as natural disasters, fires, accidents, violent acts, technological disasters, and epidemics. Estimates of the frequency of all of these negative events rose after subjects read the initial story about the fatal stabbing. Thus, it appears that hearing about one negative event has a generalized effect on one's perceptions of danger. Negative affect seems to be a likely mediator of these effects, as subjects reported sadder moods after having read the initial story.

Overall, happy moods tend to simplify the decision-making process and result in greater risk taking, provided the potential losses are not too large. And sad moods tend to cause one to overestimate the risk involved in most aspects of life (a bias that should then result in more conservative decision-making strategies, but that conclusion has yet to be tested). For the clinician, either of these situations is not ideal. Clinicians in a more positive mood might persuade clients to be overly eager to try low-to-moderate risk solutions to problems when either no-risk or, perhaps, a high-risk approach might have been more optimal. Further, clinicians
stantial risks lurking behind every corner, or, at least, induce their clients into rather passive decision-making styles.

**Mood and Attentional Focus**

Recently, Salovey (1986; Salovey & Rodin, 1985) has suggested that mood causes a shift in the focus of one's attention to oneself. According to this hypothesis, when individuals have affective experiences, they become temporarily self-preoccupied. Their attention first turns away from external social cues and drifts inward, except when there is an explicit manipulation of salient external cues and a purposeful ambiguity of internal cues (e.g., Schachter & Singer, 1962). This process is thought to occur because it assists the individual in clarifying his or her emotional arousal evoked by (usually) unexpected stimuli. Individuals seem to focus attention on themselves during emotionally arousing experiences because emotion was originally a function of the relevance of the stimulus to the self (Snygg & Combs, 1949); highly self-relevant stimuli seem much more capable of eliciting emotional reactions than stimuli with less personal significance (Rogers, 1951; Salovey & Rodin, 1984). Moreover, self-focused attention serves to clarify and intensify emotional reactions (Scheier & Carver, 1977; Scheier, Carver, & Gibbons, 1981).

The implications of the hypothesis that intense moods lead to self-focused attention for clinical judgment and decision making are interesting. As has been emphasized, a clinician's mood might be determined empathically within the therapeutic session or extra-therapeutically, that is, for reasons having nothing to do with a particular client. In either case, the arousal of any intense mood state might be accompanied by a tendency toward self-focused attention or introspection. The therapist may then have some difficulty attending to the nuances of the client's verbalizations and behavior. It seems possible that intense moods on the part of the therapist may thus interfere with optimal attention to the client.

The depression literature suggests other parallels between affect and self-focused attention which imply that therapists experiencing intense moods (and resultant self-focused attention) might show biases in cognitive processing and subsequent behavior that are quite similar to those of a depressed person. For example, as Smith and Greenberg (1981) and Pyszczynski and Greenberg (1985) note, depressives and self-focused nondepressives both show (a) increased self-evaluation tendencies, (b) intensified negative affect, (c) increased tendencies to make internal attributions for negative outcomes, (d) a marked accuracy in self-reports, and (e) increased tendencies to withdraw from tasks after failure. Further, depressives tend to score higher than nondepressives on a variety of indices of self-awareness (Ingram & Smith, 1984; Smith & Greenberg, 1981; Smith, Ingram, & Roth, 1985) even though such self-focusing reveals all the more clearly, at least to the depressive, an array of self-deficiencies. Perhaps this was the phenomenon that prompted McGuire (1984) to write, "One does not have to be a depressive (though it helps) to realize that at times the self is all too much with us" (p. 73).

**Mood and Motivation to Help**

Let us consider two common mood states, joy and sorrow. And, let us assume that for the clinician these two states could originate from two different sources, the clinician's own experiences or the experiences of the client with whom the clinician empathizes. We will label moods created by the clinician's experiences as self-focused joy and self-focused sorrow. Moods deriving from the good fortunes or difficulties of the client could be called empathic joy or empathic sorrow. In a series of studies conducted at Stanford University, we were able to observe the effects of joy and sorrow (generated by the self or empathetically) on subjects' willingness to offer help. When individuals feel joyful, they tend to offer help to others when the joy is self-focused, but they tend to withhold help when the joy is empathically generated (Rosenhan, Salovey, & Hargis, 1981).

On the other hand, when sadness is self-focused, helping is not very likely, but empathic sorrow motivates one to help others (Thompson, Cowan, & Rosenhan, 1980). These mood-induced changes in helpfulness probably reflect changes in one's beliefs about one's resources relative to others and one's expectations about one's abilities to carry out helping activities (Rosenhan, Karylowski, Salovey, & Hargis, 1981). In fact, recent evidence (Salovey, 1986) suggests that self-generated happiness seems to promote helping by making thoughts about charity more available to the helper as compared with less altruistically oriented thoughts about helping such as reciprocity (i.e., tit-for-tat). These thoughts seem superimposed on a more general tendency for positive mood to increase individuals' perceived "helping self-efficacy" (Salovey, 1986). It seems that happy people see themselves as much more capable of carrying out a variety of helping acts.

The implications for clinical work are that, paradoxically, clinicians might have great difficulty offering help to clients following successes in the client's life or, more obviously, following failures in the therapist's external activities. It appears that help would be much more forthcoming following some pleasant event in the therapist's private life or when the client is experiencing misery with which the therapist can empathize.
Moods have consequences for clinically relevant behaviors other than helping as well. Positive moods make people more willing to initiate conversations with others (Batson, Coke, Chard, Smith, & Taliaferro, 1979), and happy individuals express greater liking for people whom they have just met (Gouaux, 1971; Griffitt, 1970; Veitch & Griffitt, 1976). In general, it seems that individuals in happy moods perceive themselves as more capable of coping with the world and are more generous with their own resources (Isen, 1970). Further, happy individuals act to maximize their happiness and minimize the chances that their good moods could be replaced by any kind of distress (Forest, Clark, Mills, & Isen, 1979; Isen & Patrick, 1983; Isen & Simmonds, 1978).

Avoiding the Biasing Consequences of Mood States

Let us assume that, for the most part, mood states themselves are rather unavoidable, nor would we, in fact, want to avoid them. The question then becomes, given I, as a clinician, may be experiencing some mood state, how can I keep it from unduly influencing the way that I interact with a particular client? In this sense, one can reduce bias by engaging in any of a number of “debiasing” strategies that we have described in more detail elsewhere (Turk & Salovey, 1986; see also Arnoult & Anderson, this volume).

In particular, the clinician is probably well served by always attempting to generate competing causal hypotheses for understanding any clinical observation (Anderson, 1982; Einhorn & Hogarth, 1982), and including as one competing hypothesis that the clinical observation might be partially determined by the clinician’s affective state. Once alternative hypotheses have been generated, questions can be formulated that falsify one hypothesis while confirming a second one (Einhorn & Hogarth, 1982), and erroneous inferences can be easily replaced with better alternatives.

Additionally, clinicians may want to undergo the “bias inoculation” procedure that we have described (Turk & Salovey, 1986), whereby they are provided with actual experiences and can then observe how their moods affect their memories, “inoculating” them against ignoring these factors in more important clinical contexts. For example, clinicians may want to participate in mood induction procedures and then literally observe the kinds of autobiographical memories that are most likely to occur to them. Further, clinicians might find it useful to question themselves (i.e., self-interrogate) about their moods at the start of each therapy session. They may even want to record their mood state in their process notes so that mood-generated biases can later be discovered and accounted for.
Sources of Bias


Some Effects of Mood on Clinicians' Memory


Sources of Bias


