Fiske & Taylor, Social Cognition

(R. A. Baron, 1983; Dribben & Brabender, 1979; Galizio & Hendrick, 1972; Gouaux, 1971; Griffit, 1970; Janis, Kaye, & Kirschner, 1965; Krugman, 1983; Laird, 1974; Milberg & Clark, 1988; Petty et al. 1983; Razran, 1940; Staats, Staats, & Crawford, 1962; G. L. Wells and Petty, 1980; Zanna, Kiesler, & Pilkonis, 1970; see McGuire, 1985; Petty, Cacioppo, & Kasmer, 1988, for reviews). The positive mood results may explain the effectiveness of free samples, soothing music, and friendly banter in marketing efforts, all of which increase positive moods and therefore, perhaps, persuasion. (But the effects of anger on noncompliance oddly do not seem to discourage the relentless programs of telephone promotions.)

Much of the mood and persuasion research was originally conducted under a classical conditioning paradigm, but subsequent studies have suggested some roles for cognitive processes. For example, not all persuasion is automatically enhanced by positive mood; perhaps positive mood only enhances persuasion under conditions of low involvement and low cognitive activity (Petty, Cacioppo, & Kasmer, 1988; Petty et al., 1988; Petty, Gleicher, & Baker, 1991). Positive moods themselves can be distracting and reduce cognitive capacity, leading subjects to superficial but still cognitively mediated processing of messages (Mackie & Worth, 1989; Worth & Mackie, 1987). Under conditions of moderate involvement, however, affect may enhance thought because of affect's arousing and attention-getting impact. Under conditions of high involvement, mood may serve an informative function relevant to one's possible reactions, or it may bias retrieval of relevant supporting information (Petty et al., 1988).

Summary

Good moods often lead people to be more helpful, more sociable, and nicer to themselves, to recall pleasant things, to judge things positively, to make faster and looser decisions, and to be more compliant. Bad moods have more variable effects, leading people to be more or less helpful, to remember negative things if truly depressed, sometimes to make negative judgments, and to be less often compliant.

AFFECT VERSUS COGNITION

In this chapter, we have examined research investigating some cognitive bases of emotional responses and some affective (mood) influences on cognition. In this final section, we examine the relationship between affect and cognition more explicitly, starting with the possibility that they are largely independent.

The Separate Systems View

Despite the scientific and common-sense idea that we think about things in order to know how we feel, there is a case for affect preceding cognition, rather than vice versa (Zajonc, 1980b). Indeed, some of us are constantly amazed at our own ability to make major life decisions on the basis of emotional preferences guided by no apparently relevant cognitive data. (Consider how you fell into your first serious romantic involvement or your earliest image of your career; some us can find not one iota of rational cognitive analysis in those choices.) Affective processes may operate rather independently of cognitive processes, in this view. Note that this is a controversial perspective, and it depends at a minimum on how one defines the terms "affect" and "cognition." Before detailing the objections, it is useful to present the Zajonc argument and its evidence.

The separate systems view suggests that affective and cognitive processes proceed in parallel paths without influencing each other much, under at least some circumstances. Affective processes are argued to occur at a more basic level than cognitive processes, in several respects. Zajonc suggests:

Affective reactions are primary. Evaluations are made and then justified; decisions are based on preference rather than computation. (Romantic involvements are a prime example of not choosing based on a cognitive list of pros and cons.)

Affect is basic. Evaluation is a major and universal component of virtually all perception and meaning. It is difficult to understand something without evaluating it. (Consider a lonely person scouting for a mate, unable to meet anyone in any context without evaluating the person's potential availability.)

Affective reactions are inescapable. They are demandingly present in a way that simple knowledge is not. (Attraction is harder to ignore than the other person's career plans.)

Affective reactions tend to be irrevocable, in contrast to cognitive judgments. One's feelings cannot be wrong, but one's beliefs can be; hence, affect is less vulnerable to persuasion than cognition. (As parents of adolescents constantly discover, other people's feelings of love and anger do not respond well to counterargument.)

Affect implicates the self. While cognitive judgments rest on features inherent in the object, affective judgments describe one's own reactions to the object. (One's affective response to another has everything to do with one's relationship to the other, but one's knowledge of the person does not necessarily depend on one's relationship.)

Affective judgments are difficult to verbalize. Much emotional response is communicated nonverbally; words for affective reactions always seem to fall short of the experience. (Describing the superficial features of the loved one is easy, but communicating one's actual feeling of love challenges even the poets.)

Affective reactions may not depend on cognition. The features that people use to discriminate a stimulus may not be the same features that they use to decide whether or not they like it. (Totaling up the lover's pros and cons does not necessarily predict one's feelings.)

Affective reactions may be separated from content knowledge. One sometimes remembers how one feels about a person but cannot remember the details of where or how the person was previously encountered. (One may feel strongly about someone without remembering all the reasons why.)

Overall, this stimulating line of argument has proved controversial, so we will examine some of the relevant evidence and then some of the objections.

Evidence from Mere Exposure Research

The last pair of arguments—that affect may not depend on cognition and may be separated from knowledge of content—underlie a research program demonstrating that people can know how they feel about an object before they can recognize it. The opening bars of a classic old song on the radio may be enough to let us know whether or not this is a golden oldie we like, but many of us cannot identify it right away or even be completely certain whether or not we have heard it before. Many studies document this phenomenon of feeling a warm familiar glow that is accompanied by a total lack of recognition. More generally, people grow to like an initially unobjectionable stimulus the more frequently it is encountered; this is called the *mere exposure effect* (Zajonc, 1968a; see Chapter 11).

In mere exposure studies, people typically see a series of nonsense words, Chinese characters, or yearbook photographs, either many times or few times. The more often people are exposed to the stimulus, the more they favor it, and this effect replicates consistently (Chapter 11; Kunst-Wilson & Zajonc, 1980; for a review, see Bornstein, 1989). People prefer the frequent stimuli to the less frequent stimuli, even when they can only recognize them both at levels approximating chance guessing. One study found that mere exposure to Japanese ideographs influenced affect, independent of recognition for them

(Moreland & Zajonc, 1977; for debate, see Birnbaum & Mellers, 1979a, 1979b; Moreland & Zajonc, 1979). Liking for frequently heard tone sequences was found consistently, even though the tones were only recognized as familiar at approximately chance levels (W. R. Wilson, 1979). Further evidence came from a study using a dichotic listening task, in which the experimenter presented the tones in one ear but focused subjects' attention on a literary passage presented to the other ear. Using this task, one can virtually eliminate recognition for the tone sequences, leaving affective reactions intact. Similar results have been obtained with more engaging stimuli, such as the photographs and interests of fellow students (Moreland & Zajonc, 1982). The effects are generally strongest for meaningful words (including names), polygons, and photographs, and they do not occur reliably for paintings, drawings, and matrices (Bornstein, 1989).

It would appear that affective processes more than cognitive ones underlie the mere exposure effect. A dissenting view has suggested, however, that brief repeated exposure activates a simple schema, which affects judgments of familiarity and liking, but also brightness, darkness, or any other stimulus-relevant judgment (G. Mandler, Nakamura, & Shebo Van Zandt, 1987); this view, thus, disagrees that mere exposure effects are noncognitive. At a minimum, however, mere exposure effects on liking (and perhaps on other judgments) do not depend on conscious recognition of the stimuli, itself an impressive effect.

Evidence from Person Perception and Attribution Research

A wide range of affective variables are independent of seemingly relevant cognitive variables. For example, evaluative impressions (one kind of affect) can be independent of memory for the details on which they were based (one kind of relevant cognition). This occurs when impressions are formed on-line, at the time of the initial encounter (N. H. Anderson & Hubert, 1963; Bargh & Thein, 1985; Dreben, Fiske, & Hastie, 1979; Riskey, 1979; for a review, see Hastie & Park, 1986). Thus, as you are forming an impression of someone at a party, your affective response is likely to occur independently of your later ability to remember details about the person. The exception to this apparent independence of affective responses and memory for the data on which they were based occurs when people are overloaded at the time of the encounter and do not have the motivation or the individual capacity to form an evaluative impression at the time; in this case, their impression is memory-based (Bargh & Thein, 1985). More generally, though, other social judgments and recall are often uncorrelated, as we saw in Chapter 8 (S. T. Fiske, Kenny, & Taylor, 1982; S. T. Fiske et al., 1979).

Affective judgments are not necessarily based on recallable cognitions, and instead, they often are based on evaluations formed on-line. This implies that some affective reactions are better characterized as immediate responses. One must then entertain the related possibility that affective responses are also relatively direct and noncognitive. The concept of separate stores for evaluative and cognitive content (N. H. Anderson & Hubert, 1963) is one description of this process. The notion of affective reactions as a direct result of initial categorization (S. T. Fiske & Neuberg, 1990; S. T. Fiske, 1982) is another. The idea that attitude objects can directly cue the relevant attitude is also pertinent (Fazio, 1986; Fazio, Powell, & Herr, 1983). Much other relevant work demonstrates the importance of on-line processes in affective responses (see Chapters 3, 7). And at least some emotional responses (startle and pupil dilation) are not preceded by identifying and judging of stimuli (Schmidt-Atzert, 1988).

Objections

Quite a few theorists have responded to Zajonc's (1980b) view of emotion as a system separate from cognition. The objections have centered around the existence of nonconscious cognitive processes, the possibility of subsuming affect under other forms of cognition, the definitions of both cognition and affect, and the problems in empirically comparing the two.

Among the first to respond to Zajonc was Lazarus (1982, 1984, 1990) whose emotion theory depends on the appraisal of personal meaning, as described earlier. Lazarus argues that cognition, defined as appraisal, is necessary for emotion; appraisal interprets meaningful stimuli in terms of their significance for personal well-being. In this view, appraisal is not regarded as deliberate, rational, and conscious, for it occurs from the very beginning of perceiving environmental inputs, not at the end of a long chain of serial, complete, thorough information processing. Similarly, Epstein (1983, 1984) argues that preconscious cognitions usually precede emotions, and that the Zajonc approach implicitly defines cognition as conscious, when it need not be. Thus, some form of intuitive, preconscious, unintentional cognitive appraisal is seen as an integral part of all emotion. Zajonc (1984) argues that this definition of cognitive appraisal blurs the distinction between perception and cognition and that the Lazarus concept of emotion arbitrarily requires cognitive appraisal by definition. Clearly, the two viewpoints differ as to the defining features of emotion and of cognition, and therefore, differ as to the separation between the two.

Two other critiques of the Zajonc definitions of cognition and affect begin with the observation that cognitions can be rapid, unconscious,

and automatic, just as affect is presumed to be; further, like affect, cognition can be irrational and can be tied to motor involvement (Holyoak & Gordon, 1984). In this view, the distinctions are less important than the possibility of subsuming both cognition and affect within one mental system. A related proposal specifically relies on the procedural view of memory outlined in Chapter 8; recall that this view of memory depends on highly practiced mental activities that become more rapid as they are repeated. In this view, emotion can result from unconscious pattern-matching to emotional procedures, as well as from consciously accessible nonprocedural knowledge (Branscombe, 1988). Both of these efforts subsume affect under traditionally cognitive frameworks. Others have similarly argued that affect should be treated just like all other kinds of information (N. H. Anderson, 1989b).

Another possible resolution comes from recognizing two meanings of cognition (Averill, 1990a). The first, cognition_1, is intellective knowledge acquisition, which is the everyday (dictionary) meaning of cognition. The contrast to intellective cognition is value-laden, intuitive, or irrational thinking. The other meaning, cognition_2, subsumes all mental activity, as compared to behavior. This second meaning of cognition—that is, any nonbehavioral mental activity—is closer to the meaning of cognition as discussed, for example, by Lazarus in defining appraisal as a form of cognitive activity. Emotions are noncognitive in the first sense only, being nonintellective cognition, that is, more value-laden, intuitive, and irrational. Emotions are, however, cognitive_2 in the sense of being mental processes. The most useful point is that emotions as mental processes tend to be distinguished from intellective cognition, in typical ways:

(a). emotion concerns the person's own experience as subject or origin, rather than focusing on the object itself out there;

(b). emotion tends to influence perceived "reality," whereas thinking to a greater extent accommodates to reality;

(c). emotion views the target as important for its relationship to the person, but intellective cognition emphasizes an object's relationship to other external objects;

(d). emotion involves physiological experiences, not just environmental inputs;

(e). emotion regulates the intensity and style of behavior, rather than the goal-directed efficiency of behavior;

(f). emotion is experienced passively or in reaction to the stimulus, but people experience themselves as the source of intellective cognition;

(g). emotion commits one to action more than does the cost-benefit calculation of intellective cognition;

(h). emotion norms are moral and aesthetic, while intellective norms are rational;

(i). emotion helps define the self, rather than the world.

This is not to say that intellective cognition is necessarily rational, merely that it displays all these features less often than does emotion (cf. Epstein, 1990a).

So far, we have focused on definitional issues regarding cognition and emotion or cognition per se. Of course, the resolution to this debate also depends on how one defines emotion. For example, the original Zajonc article focused on preferences (evaluations, affective judgments, liking) rather than on moods or on full-blown emotional episodes (J. A. Russell & Woudzia, 1986). Moods and emotions, many would argue, do intrinsically depend on cognitively driven appraisal processes (e.g., see theories of Lazarus; Ellsworth & Smith, covered earlier). Preferences are relatively simple affective responses, distinguished mainly by valence, so some of the Zajonc results may pertain primarily to simple preferences and not so much to full-blown complex emotions.

Others suggest that the entire distinction is largely definitional and therefore not constructively pursued as such (Leventhal, 1984; Leventhal & Scherer, 1987). Instead, they suggest viewing emotion as developing from sensory-motor processes to complex cognitive-emotional patterns, with distinct levels of memory and information processing and with continuous checks on the organism-environment relationship at all levels.

To all this, we would add only that there are inherent problems in comparing cognition and affect. Implicit in our discussion so far has been the idea that affect and cognition are somehow comparable. Judgments representing affect have included evaluation, preference, and differentiated emotions, while reactions representing cognition have included attention, inference, and memory. How does one decide what are the relevant cognitions and what are the comparable affective responses?

One study illustrates the complexity of this problem. In a mere exposure experiment, subjects rated their recognition and liking for random polygons that had been presented at varying frequencies. Although recognition accuracy was only at chance levels, subjects liked the familiar polygons better than the unfamiliar ones, confirming the standard mere exposure effect and that liking need not depend on accurate memory (Kunst-Wilson & Zajonc, 1980). But in what sense is recognition accuracy comparable to liking? The study assessed two other variables that help answer this question. Affective judgments were

made more confidently and somewhat faster than recognition judgments. Nevertheless, these may not be the appropriate dimensions for comparison. The appropriate empirical tests depend on the conceptual definitions of affect and cognition, matters of some controversy, as noted earlier. For example, affect and cognition have been distinguished, respectively, as sensory vs. inferential, physiological vs. mental, motor vs. perceptual, innate vs. learned, preference vs. knowledge, and liking vs. discrimination. One's operational definitions of affect and cognition depend on which of these dimensions one emphasizes.

One can also question whether these are fair tests because people can be wrong about a recognition judgment but not about an affective judgment. One can also argue that recognition judgments are more complex. But the two types of judgment intrinsically differ in these ways, and one cannot make them more similar without destroying them as realistic judgments of their type. Affective judgments are by their nature subjective, simple, and direct. Trying to specify a cognitive response that is truly equivalent to a given affective response may be a losing proposition.

Trying to establish the independence of affect and cognition is also, essentially, trying to establish the null hypothesis. To the extent one argues that they are independent, one is trying to establish the absence of a relationship. This is a thankless task, as any statistics professor will insist if someone tries to prove the null hypothesis of no relationship. The more sensible task is to show on what each is based, if not entirely on each other (Zajonc, Pietromonaco, & Bargh, 1982). And because the separation is not complete, another task is to show the ways in which they do relate. The work reviewed in this chapter does just that.

SUMMARY

The literature on affect and cognition is moving in numerous different directions simultaneously, which do not necessarily cohere. Moreover, some theoretical efforts are supported by considerably more empirical evidence than others. Nevertheless, some central themes emerge as directing research and theory.

Affect is a generic term encompassing all kinds of evaluations, moods, and emotion. Preferences include relatively mild subjective reactions that are essentially either pleasant or unpleasant; the preferences most frequently studied by social psychologists are interpersonal evaluations. Moods typically do not have a specific target, are considered as simply positive or negative, and have some duration. Emotions are more complex and differentiated affects, often include physiological responses, and can be relatively brief. The two most common ways of distinguishing among emotions are along the two dimensions of pleas-

antness and arousal or along two independent dimensions of positive and negative emotions. Positive emotions, analyzed separately, have a simpler structure than negative emotions. Prototype approaches have also been applied to people's culturally shared categorization of specific emotions and to the concept of emotion in general. Emotions have also been viewed as social roles enacted according to cultural rules.

Early theories of emotion posed the question of whether physiological responses precede (James, Lange) or follow (Cannon) the experience of differentiated emotions. Following this debate, many physiological theories of emotion assumed that autonomic arousal in particular was undifferentiated and that other mechanisms must account for the complexity of emotional experience. Four theories form core contributions: *Facial feedback theory* posits that the complex and subtle musculature of the face provides the detailed patterns of feedback that underlie different emotions. The face does reliably express basic dimensions of emotion, particularly valence and intensity. There is also some evidence that manipulated facial expressions influence the experience of affect, although this evidence has sparked considerable debate. Two other physiological proposals focus, first, on the role of the facial muscles in regulating cerebral blood temperature (*vascular theory*) and, second, on the role of muscles in the body as representing and retaining emotional responses (*hard interface theory*); the data are just coming in on these two theories. *Excitation transfer theory* posits that autonomic arousal from emotions or exercise decays slowly, and that people often cannot distinguish the source of their arousal. Consequently, prior excitation can transfer or spill over to intensify new affective responses, even those of a different valence; considerable research supports this premise. All four of these modern physiological theories deemphasize the role of cognition in generating emotion.

In contrast, social cognition research has examined how cognition might contribute to affect. One set of approaches examines the interplay between arousal and cognition, building on Schachter's *two-component theory* of emotion, which states that unexplained arousal leads people to search their environment for cognitive labels for their emotions. Mandler's *theory of mind and emotion* extends this analysis in several respects: first, it explains the origins of physiological arousal in the interruption of perceptual schemas or complex goal sequences. The degree of disconfirmation of a perceptual schema determines its experienced pleasantness. The interruption of a goal sequence also prompts cognitive interpretation that determines the nature of the experienced emotion. Berscheid's theory of *emotion in close relationships* extends this analysis to complex goal sequences in which people are interdependent: the more intimate the relationship, the more interdependence, and the more potential for interruption and consequently, emotion. This theory explains various phenomena in relationships, and research is beginning to provide further support.

Other social cognition theories focus more specifically on cognitive structures and their impact on affect. A variety of work has examined social schemas and affect. The theory of *schema-triggered affect* posits that affective values are stored at the top level of a schema, accessible immediately upon categorization of an instance as matching the affect-laden schema; research supports this idea. People also have *affective expectancies* that help determine their responses. A considerable amount of research has examined the affective impact of *informational complexity;* more complex knowledge structures often lead to more moderated affect, whereas simple ones allow more extreme affect. Over time, *thought polarizes affect,* to the extent that thought organizes the relevant schema, the schema contains correlated dimensions, and the person has made a public commitment to the initial affective response; research also supports these points.

Another set of theories examines people's emotional reactions to outcomes they or others have obtained. Weiner's theory of the *dimensions of attribution* proposes that different configurations of attributions—involving internal and external locus, stability over time, and controllability—result in specific emotional and behavioral responses to self and others. This perspective has garnered a considerable amount of research support. Another account that relates outcomes to emotion is provided by a *cognitive structural theory* of emotions pertaining to goals, standards, and attitudes; this theory comprehensively organizes a variety of perspectives on emotion, and its goal is computer simulation.

Besides already obtained outcomes, some social cognition theories of emotion have emphasized alternative outcomes, what might have been or what might yet be. *Norm theory* describes the process of deciding how surprising an outcome was, compared to the alternatives. The ease of imagining alternatives determines the amount of surprise and the intensity of emotional response; research supports these ideas. A theory of *alternative future worlds* describes emotions experienced in reaction to the imagined possibility of interrupting a future goal sequence at various stages. These theories of obtained outcomes and alternative outcomes, as well as the theories of interruption as a basis for arousal, all posit that interruptions cause emotion.

However, emotions also in turn cause interruptions. Several theories describe emotions as managers of goal priorities; in these views, emotions interrupt goals to suggest changes in priorities. In one view, emotions serve as alarm signals providing *arousal and interruption* that alert the organism to an unmet need that has shifted its urgency while the organism has been pursuing another goal. In a related view, emotions provide *transitions between plans* with changes in the estimated success of the plan. Although not yet tested directly, some data are consistent with these views. A third approach, based on a *cybernetic model,* posits an affective feedback system that senses and regulates the rate at which the organism pursues the goal; a number of studies support these ideas.

A final set of theories examines ways in which cognition generates affect. The appraisal theories describe how people assess the environment to ascertain its significance for their concerns. The appraisal of *personal meaning* involves preconscious and conscious cognitive assessments of, first, personal relevance and, second, coping options; research on stress and coping is consistent with this view. *Cognitive appraisal* assesses particular dimensions of the current situation, determining particular emotional responses, and several studies of appraisal and emotions support this theory. Other theories have identified similar dimensions of appraisal leading to emotion, in particular, pleasantness, agency, certainty, and attention.

In addition to considering the various influences of cognition on affect, a considerable body of research has considered the influences of affect on cognition, and in particular, the influences of mood. This research finds clear effects even of small mood manipulations on a variety of cognitive processes. The effects for positive mood are more clear-cut than the effects of negative mood in general. Positive moods lead to more prosocial behavior. These robust effects may be explained by the cheerful person's sensitivity to positive reinforcement; helping in a good mood is enhanced by focus of attention on oneself, requests emphasizing the rewards of helping, an emphasis on a positive social outlook, and the opportunity to maintain one's positive mood. People in a negative mood may or may not be helpful, depending on the circumstances.

Mood reliably increases people's memory for mood-congruent material, due to both automatic and controlled processes. Effects for positive moods are stronger than those for negative moods, with the exception of people who are chronically depressed, who also show strong mood-congruent memory. Another mood-memory phenomenon, mood-state-dependent memory, posited that people would best recall material that was learned and retrieved in the same mood state; this hypothesis has little support. A network model to account for mood effects on memory has also received little support.

Mood generally influences judgment in a mood-congruent direction as well. Arousal similarly creates arousal-congruent judgments. Again, the effects of positive mood are more reliable than the effects of negative moods. Moreover, the effects on adults are more reliable than the effects on children. Various explanations for the effects have been proposed but, for the most part, remain to be tested. Mood also affects people's style of decision making, with positive moods making people more expansive, inclusive, impulsive, and perhaps creative. Positive moods also make people more compliant toward attempts at persuasion, at least under low involvement.

The contrast between affect and cognition has been hotly debated, leading to a proposal that they are separate systems, with affect being

primary. Evidence from mere exposure and person perception research is cited in support of this perspective; people report liking frequently encountered stimuli they cannot discriminate as familiar, and people's evaluative judgments are often made on-line, without recall for the data on which they were based. Objections to this perspective have focused on the possibility of nonconscious cognitive processes, the role of affect within broader (cognitive) representational systems, the problems of defining both affect and cognition, and empirical tests of the differences. The most constructive course seems to be to examine the bases of each and to investigate the multiple ways in which they do relate, as reviewed here.