Journal of Personality and Social Psychology
1991, Vol. 60, No. 1, 100–111

Copyright 1991 by the American Psychological Association, Inc.
0022-3514/91/$3.00

A Broader Conception of Mood Experience

John D. Mayer
University of New Hampshire

Peter Salovey
Yale University

Susan Gomberg-Kaufman and Kathleen Blainey
State University of New York at Purchase

The experience of a mood consists of more than emotional states such as happiness, anger, sadness, or fear. It also includes mood management processes that can facilitate or inhibit the experience of the mood reaction. A multidomain framework is described for organizing such experience, and 2 studies are reported that analyzed separately emotion-related and emotion-management-related mood experiences. In both studies, emotion-related experience, including physical, emotional, and cognitive subdomains, could be characterized by Pleasant–Unpleasant and Arousal–Calm dimensions. Also, both studies yielded evidence for the emotion-management dimensions of Plans of Action, Suppression, and Denial. These broader dimensions of mood experience predicted criterion variables such as empathy better than Pleasant–Unpleasant and Arousal–Calm dimensions alone.

The experience of mood is broader than its emotional content alone. Mood has been said to provide a general context for thought (Simon, 1982, p. 336), and a general "tuning" of the organism (Scherer, 1986, p. 181). It consists of multiple, potentially reversible dispositions and attitudes, some of which are cognitive and nonaffective (Nowlis, 1970; Thayer, 1989). Mood experience, in this sense, encompasses emotions such as happiness, sadness, anger, and fear (Watson & Tellegen, 1985), as well as associated physical sensations such as sweaty palms and upset stomachs (Nieuwenhuyse, Offenberg, & Frijda, 1987) and cognitive states such as confusion or apathy (Beck, 1967). Mood experience may also encompass emotion-management processes that modify perceptions of the evocative situations that elicit an emotion (Mayer & Gaschke, 1988). The experiences of suppression (e.g., "don't think about it") or of behavioral planning (e.g., "get help") can be considered part of this broader concept of mood. Inclusion of such thoughts within the mood framework forms part of one tradition in mood measurement and also may be appropriate because emotion management cannot exist independently of emotional processes.[1]

Contemporary mood scales measure portions of the emotional content of a mood but, in general, deemphasize the emotion-management-related experience of mood. This article is concerned with the twin issues of (a) the best way to measure and classify aspects of mood experience beyond the purely emotional and (b) whether such broader conceptions of mood experience have a predictive utility beyond mood's emotional content alone with regard to dispositional constructs.

Mood adjective scales are the most widely used instruments for measuring mood experience. Early mood scales contained heterogeneous collections of adjectives, some of which denoted moods and emotions and others of which denoted diverse classes of experience, including those related to self-concept and nonmood affects (Nowlis, 1965; Zuckerman, Lubin, Vogel, & Valerius, 1964). The Mood Adjective Check List (Nowlis, 1965), for example, included not only emotion terms such as *elated, angry,* and *fearful,* but also such alternative terms as *work oriented, introspective, decisive,* and *meticulous.* To complete such scales, a person rated each adjective according to how much it described his or her present mood. The responses to the adjective scales were then studied, and the adjectives were placed along dimensions, or clustered, through the use of

During the course of this research, John D. Mayer was supported in part by a State University of New York President's Fund research award, a New York State/Union of University Professional's New Faculty Development Award, and National Institute of Mental Health Grant 1R03MH44038. Peter Salovey was supported by National Institute of Health Biomedical Research Support Grant S07 RR07015, National Cancer Institute Grant CA42101, Contract 200-88-0001 from the National Center for Health Statistics, and a Presidential Young Investigator Award from the National Science Foundation.

We gratefully acknowledge the assistance of Ann O'Leary, whose lively discussion of alexithymia and repression contributed to the project at several critical stages of its development. We also acknowledge, with thanks, the assistance of Mahzarin Banaji, Gerald Clore, David Watson, Daniel Weinberger, and two anonymous reviewers who read early versions of the manuscript and provided us with thought-provoking comments that have enriched this article. Jeffrey Tanaka provided invaluable guidance in our discussion of structural equation modeling as it applies to the bipolar dimensions of the mood domain.

Correspondence concerning this article should be addressed to John D. Mayer, Department of Psychology, Conant Hall, University of New Hampshire, Durham, New Hampshire 03824-3567, or Peter Salovey, Department of Psychology, Yale University, P.O. Box 11A Yale Station, New Haven, Connecticut 06520-7447.

[1] An alternative to using the term *mood* in this way is to use the term *emotional episode.* Although this would be an acceptable substitution, the continued use of *mood* has the advantage of remaining consistent with usage in the measurement literature. The term *mood scale,* for instance, implies these broader conceptions of emotional experience, including the experience of behavioral, physiological, and cognitive phenomena (cf. Nowlis, 1965).

factor analyses or related techniques. The specific solutions that resulted depended on the way such multivariate techniques were applied, but, in general, they varied along a continuum from complex *multiple-dimension* solutions to relatively simpler *two-dimensional* solutions. Alternatives along this continuum have remained the most widely used to describe mood.

MULTIPLE-DIMENSION SOLUTIONS

In multiple-dimension solutions, the highest number of factors, clusters, or dimensions that can be justified by the particular multivariate technique is extracted from an adjective scale in the hope of identifying both basic moods and subtle styles of mood reaction. For example, basic moods or emotions might be reflected by factors of anger, fear, joy, and so forth, whereas more subtle factors reflecting contemplativeness or avoidance might also be extracted. This multiple-dimension approach frequently yielded as many as 8 to 12 emotion and emotion-related dimensions. Nowlis's (1965) factor analysis of his Mood Adjective Checklist, for example, produced factors of Aggression, Anxiety, Surgency, Elation, Concentration, Vigor, Social Affection, and even Nonchalance. Such solutions are tantalizing in that they raise the possibility of actually identifying nonaffective concomitants to mood, such as Concentration. Nonetheless, such solutions can be criticized because (a) they split seemingly cohesive categories into arbitrary subclassifications (e.g., Surgency vs. Vigor) and (b) they equivocate among theoretically diverse groups of terms such as those describing emotions (Anxiety), cognitions (Concentration), and dispositions (Social Affection).

TWO-DIMENSIONAL SOLUTIONS

Two-dimensional solutions provide an attractive alternative to multiple-dimension solutions by guaranteeing a relatively elegant description of the mood domain. To begin such an analysis, one chooses a set of adjectives highly related to emotional content. Then, the solution is truncated at two factors (or at two clusters, or two dimensions). This procedure yields Pleasant–Unpleasant and Arousal–Calm dimensions of mood, or 45° rotated variants termed the Positive–Tired and Negative–Relaxed dimensions. Researchers have occasionally included a third Dominance–Submission factor (e.g., Russell & Mehrabian, 1977; Shaver, Schwartz, Kirson, & O'Connor, 1987). Russell (1979), however, argued against including this third dimension because the terms loading on it "were interpretable as referring to the antecedents and consequences of the emotional state rather than to the emotion per se" (Russell, 1979, p. 354). Russell's work, in turn, was criticized by Zevon and Tellegen (1982), who stated that even several of Russell's terms (e.g., *sleepy, sluggish, tired, content,* and *at ease*), were insufficiently pure emotions. Partly for this reason, new mood scales that were constructed gradually excluded nonemotional terms (e.g., Diener & Emmons, 1984; Lorr, McNair, & Fischer, 1982; Mayer & Gaschke, 1988; Russell, 1979; Watson & Tellegen, 1985; Zevon & Tellegen, 1982).

The two-dimensional solutions have the advantage of near universality in that they can be extracted from the vast majority of mood scales (Mayer & Gaschke, 1988; Mayer & Volanth, 1985; Russell, 1979; Watson & Tellegen, 1985). They are also elegant; the division of mood into Pleasant–Unpleasant and Arousal–Calm dimensions is intuitively pleasing and can be dated back to a formulation of Wundt's (1897/1969). In part for these reasons, the two-dimensional solution has dominated the analysis of mood scales from the late 1970s to the present.

It is clear from the above that both the multiple- and the two-dimensional solutions were not entirely successful in describing the broader aspects of mood experience. Multiple-dimension solutions provided undercontrolled solutions that were unsatisfactory in their theoretical coherence, whereas two-dimensional solutions eliminated any impure emotional terms that might have potentially revealed something about emotion-related experience and its interplay with emotion-related management.

COVARIANCE MODELING

Another alternative is to reorganize mood dimensions through covariance modeling techniques. There are, however, several very serious problems with this approach. First, such techniques are designed for theory testing and cannot be expected to reorganize mood structure in any sensible fashion without some a priori conceptions. More serious, from a practical standpoint, is the present inadequate statistical performance of the techniques. For example, standard covariance modeling techniques such as LISREL cannot adequately test the fit of bipolar dimensions (e.g., Pleasant–Unpleasant) because they do not adequately fit negative covariances associated with these dimensions (Cudeck, 1986). Unwary application of such techniques erroneously splits bipolar dimensions in half, doubling the two-dimensional solutions and yielding four weaker, relatively unwieldy variables (Burke, Brief, George, Roberson, & Webster, 1989). A host of other problems with covariance modeling have been identified as well (see Breckler, 1990, for a review). The general inadequacies of this approach and the ones just described motivated the development of the final alternative framework presented in this discussion. Although this final alternative was only fully conceptualized after Study 1, it is described next for purposes of organizational clarity and brevity.

THE MULTIDOMAIN FRAMEWORK AS AN ALTERNATIVE

One way to think about mood is not as a single domain, but as multiple, conceptually distinct domains of experience. The multidomain framework for mood experience (Mayer, Mamberg, & Volanth, 1988) takes its name from the psychometric concept of content domains, as applied to psychometric domain sampling. Domain sampling refers to the procedure of building a scale by first defining one or more content domains and then randomly selecting possible items from within that domain (Nunnally, 1978). It is appropriate to apply techniques such as factor analysis *within* the domains rather than across them when there are clear conceptual reasons for keeping domains separate. The multidomain framework is based on the idea that keeping distinct separate portions of mood experience will ultimately yield superior models of mood. In the pres-

ent article, a new multidomain framework is introduced, specifically oriented to measure a broader conception of mood experience that includes both mood's *emotion-related* processes and its *emotion-management* processes. Each of these domains will be discussed next.

Emotion-Related Experience

The framework for mood experience takes as its first domain the emotion-related experience of a mood. The content of this domain could be defined as, first, all emotion words (e.g., *happy* and *sad*); second, all words expressing emotion-related physical states (e.g., *goosebumps* and *refreshed*); and, third, all words reflecting emotion-related cognitive states (e.g., *thankful* and *indignant*) and external conditions (e.g., *abandoned* and *abused*). This three-part division reflects several influential theories of emotions. For example, the James–Lange theory of emotion (James, 1890) and Schachter and Singer's (1962) two-factor model both make distinctions between physiological arousal and cognitive appraisals and view emotions as yet a third type of experience resulting from an interaction of physiological and cognitive activity. Fairly exact rules for the division of affective terms into their physical, emotional, and cognitive/external classes have recently been provided by Clore, Ortony, and Foss (1987). This affective domain typically yields the two-factor solutions described above. By making the distinction among physical, emotional, and cognitive subdomains, it should be also possible to determine whether the two-dimensional structure holds for each subdomain.

Emotion-Management-Related Experience

In selecting domains beyond emotion-related experience, one must be careful to exclude certain mood domains that are essentially nonexperiential (e.g., facial-expressive), as well as domains of mood that are experienced but are not principally a part of mood (e.g., negative changes in outlook). Although these form portions of a broader multidomain model of mood, they do not qualify for a model of mood experience. One possible domain for inclusion is experience related to the management of emotion. This domain can be defined as consisting of thoughts related to minimizing emotion through action (e.g., "change the situation"), through suppression (e.g., "pretend everything's okay"), or through denial (e.g., "I feel nothing"). This management domain is arguably best considered a part of mood because it does not exist independently of emotional activity. Nowlis's (1965) dimensions of concentration and nonchalance may be loosely associated with emotion management; more germane, however, is research into the clinical syndrome of *alexithymia* (Taylor, 1984; Taylor, Ryan, & Bagby, 1985), in which individuals supplant emotional feelings with thoughts about coping (Folkman & Lazarus, 1985) or with the denial of feelings (Taylor, 1984) as part of a regulatory process. The goal of this process seems to be to minimize the experience of emotion.

In the present studies, scales are developed that reflect both the emotion and emotion-management domains of mood experience. The two domains, emotion related and management related, are first analyzed separately as if they are *two* tests embedded in one. The obtained dimensions are then examined to determine whether they predict selected dispositional variables (e.g., empathy, depression, and defense) at a level better than that obtained using the more typical two-factor Pleasant–Unpleasant and Arousal–Calm dimensions of mood alone.

STUDY 1

In Study 1, our aim was to obtain dimensions that reflected styles of emotion-related and management-related experience. In addition to distinguishing these two classes of response, we were interested in identifying new types of experience from the emotion domain itself beyond the two-dimensional solution discussed in the introduction. To optimize this likelihood, we attempted to attenuate the Pleasant–Unpleasant mood dimension so that other more interesting styles of experience might emerge. We reasoned that testing at one point in time might exaggerate the Pleasant–Unpleasant factor (and Arousal–Calm, for similar reasons) because some individuals will be in good moods, and others in bad ones, at any given moment. To avoid this situational contribution to Pleasant–Unpleasant variance, we asked people to remember or imagine how they would feel across 32 experimenter-provided situations that included both happy and sad events. They filled out 32 different 12-item adjective checklists following each event. By examining each individual's responses *combined* across the diverse situations, we hoped to minimize any momentary influence of Pleasant–Unpleasant mood and thereby permit more interesting dimensions to emerge. Our additional method for extracting such alternative dimensions was to analyze separately the management-related experience domain. The major hypotheses of Study 1 were that (a) there would be conceptually clear components of mood experience aside from those of Pleasant–Unpleasant and Arousal–Calm dimensions, and (b) such additional dimensions would predict various criterion scales better than could measures of pure Pleasant–Unpleasant and Arousal–Calm emotion alone.

Method

Subjects

One hundred seventy-two subjects (both men and women; mean age, 20.5) from the State University of New York at Purchase and Yale University participated in Study 1.

Measures

Situation Response Scale

Situations and their alternative responses. The Situation Response Scale was made up of 32 situations ordered in a counterbalanced fashion. Of these, 8 were pleasant (e.g., "You think about a friend with whom you feel completely at ease and who is always there for you"), 8 were unpleasant (e.g., "Your car breaks down at night in a bad area of the city"), 8 contained mixed pleasant and unpleasant feelings, and 8 were neutral. The final situations were selected jointly by the authors, with consideration of relevant theories of the types of situations that elicit particular emotions (e.g., Roseman, 1984). Each of the above 32 situations was followed by 12 possible reactions divided into emotion-

related and management-related domains; repetitions of responses across situations were avoided wherever possible.

Emotion-related alternatives. The seven emotion-related alternatives following each situation were divided among *physical, emotional,* and *cognitive* classes. These included (a) one bodily term (e.g., *dizzy*); (b) a pleasant basic emotion; (c) an unpleasant basic emotion, where basic emotions were always chosen from Ekman and Friesen's (1975) set (excluding *disgust* and counting *surprise* as positive); (d) a pleasant complex (as opposed to basic) emotion (e.g., *cheerful*); (e) an unpleasant complex emotion (e.g., *ashamed*); (f) one cognitive term denoting an internal state as defined by Clore et al. (1987; e.g., *confused*); and (g) one cognitive term denoting an external condition defined according to Clore et al. (e.g., *abandoned*). All of these terms, except the basic emotions, were drawn from the appropriate appendices of Clore et al.

The responses to the emotion-experience scales were scored by summing the number of terms endorsed from each of the seven emotion-related categories (e.g., bodily or basic emotion) within each of the four types of situations (e.g., pleasant or unpleasant). Thus, each individual's responses yielded 7 × 4, or 28, emotion-related scores.

Emotion-management alternatives. In addition to the seven emotion-related alternatives, four alternative responses reflected experiences related to emotion management. These included two thoughts for each situation that had been collected as part of a preliminary study. In this preliminary study, 60 additional students had been asked to respond to the 32 situations with the first thoughts that came to mind. For each situation two thoughts were selected that had each been listed more than once in the preliminary study and that the authors agreed were not emotions. In addition, the two responses *little reaction* and *no reaction* were always used as alternatives.

The responses to the emotion-management scale were scored by summing the number of terms endorsed from each of the management categories (combined thoughts, little reaction, and no reaction) within each of the four broad types of situations (pleasant, unpleasant, etc.). Thus, each individual's responses yielded 3 × 4, or 12, management-related scores.

The 12th alternative beneath each item was "other, please specify," and was not analyzed but was included to allow participants to specify idiosyncratic reactions they felt important to express. The first nine of the responses were in counterbalanced order following each of the situations; the final three (*little reaction, no reaction,* and *other*), which were invariant, were always placed last. Items for which there were no endorsements (numbering 14) were not included in analyses.

Instructions. Participants were asked to arrange three checkmarks among the 12 possible responses following each situation so as to describe their response to a given situation. An individual could place all three checks next to a given alternative, or divide them up, placing one or two among up to 3 of the 12 responses. Thus, participants allocated their responses among alternatives, perhaps as would a person faced with an evocative situation allocate his or her own responses among alternatives. Such a response procedure can be expected to be more sensitive to separating different types of reactions.

Related Measures

A series of measures hypothesized to be related to emotional expression were also included in the study:

The Mehrabian-Epstein Empathy Scale (Mehrabian & Epstein, 1972) is a 29-item unifactorial measure of emotional empathy.

The Brief Mood Introspection Scale measures the Pleasant–Unpleasant and Aroused–Calm dimensions of mood state (Mayer & Gaschke, 1988).

The Toronto Alexithymia Scale is a recently developed 26-item scale that has been hypothesized to identify individuals with nonemotional response styles (Taylor et al., 1985).

The Wahler Symptom Inventory includes 28 physical symptoms and, in this modified version (Salovey & Birnbaum, 1989), asks subjects to check those symptoms they are currently experiencing on a 5-point discomfort scale (Wahler, 1968). This scale was included because lack of emotional expression has sometimes been related to psychosomatic complaints.

The Beck Depression Inventory (Beck, 1967) was also included as a general measure of dysphoria.

Results

Emotion-Related Responding

The 28 emotion scales (7 emotional classes × 4 types of situations) were subjected to a principal-components analysis. A scree criterion suggested that either two or three components could be extracted (first 5 eigenvalues: 3.2, 2.2, 1.8, 1.7, and 1.6), and the more interpretable two-component solution can be seen in Table 1. The first factor represented a (reversed) Pleasant–Unpleasant component of mood; the second represented a somewhat less clear Arousal–Calm component. Thus, averaging responses over situations was insufficient to dispense with these two highly robust dimensions.

Management-Related Responding

Second, emotion-management alternatives to emotions were studied. Here, the same combined scree/interpretability criterion suggested two components (first 5 eigenvalues: 2.4, 1.6, 1.4, and 1.3), which can be seen in Table 2. The first component, labeled *Denial,* loaded statements of little or no reaction to a variety of pleasant, unpleasant, and mixed situations. The second component, labeled *Thoughts,* loaded most highly the thought reactions to the variety of pleasant, unpleasant, mixed, and neutral situations. The intercorrelations between the emotion dimensions, on the one hand, and the management dimensions, on the other, were uniformly low; none exceeded $r(172) = \pm.30$.

Incremental Predictive Validity of Style Over Content Alone

The final hypothesis of Study 1 was that there would be a significant incremental prediction to criterion variables obtained by including management-related experience dimensions in such predictions, over and above what could be obtained by the use of emotion-related dimensions alone. In a series of hierarchical regressions predicting each of the personality or mood scales used, there was a significant increment in prediction over and above the emotion dimensions due to the addition of the management dimensions for one of the five scales (Mehrabian-Epstein Empathy). In this particular regression, the addition of the Denial management factor significantly predicted (lower) Empathy beyond emotion-related dimensions alone: Step 1 $R(2, 166) = .14$; Step 2 $R(4, 164) = .36$; F of change $(4, 164) = 10.2$, $p < .0001$.

Discussion

In Study 1 we divided our scale into emotion-related and management-related domains. Within the emotion domain,

Table 1
Two-Factor Unrotated Principal-Components Solution for Emotion Terms: Study 1

Response type	Situation type	Principal component: Unpleasant–Pleasant	Principal component: Arousal–Calm
Negative emotion (basic)	Pleasant	.66	−.26
Negative emotion (complex)	Pleasant	.59	−.30
Negative emotion (complex)	Mixed	.58	—
Negative emotion (complex)	Unpleasant	.56	—
External term (unpleasant)	Unpleasant	.44	—
Negative emotion (basic)	Neutral	.39	—
Bodily term (mixed)	Mixed	.37	.32
Positive emotion (complex)	Pleasant	−.34	—
Bodily term (pleasant)	Pleasant	.33	—
Cognitive term (pleasant)	Pleasant	−.29	—
Cognitive term (unpleasant)	Unpleasant	−.28	—
Positive emotion (complex)	Mixed	−.27	—
Positive emotion (complex)	Unpleasant	−.26	—
Negative emotion (basic)	Mixed	—	−.56
Bodily term (unpleasant)	Unpleasant	.29	.52
Negative emotion (basic)	Unpleasant	—	−.50
Negative emotion (complex)	Neutral	—	.46
Bodily term (neutral)	Neutral	—	.42
Positive emotion (basic)	Pleasant	—	−.39
Cognitive term (neutral)	Neutral	—	.30

Note. Individual loadings below .25, and items with both loadings below .25, are omitted.

the two Pleasant–Unpleasant and Arousal–Calm dimensions of mood were extracted. This occurred despite our energetic attempts to extract alternative dimensions within the domain, including using diverse classes of affective terms, averaging responses across 32 situations, and using a nonstandard response format. The Pleasant–Unpleasant and Arousal–Calm dimensions seem truly ubiquitous for emotion-related words. We also examined the related domain of emotion management. By examining this domain separately, we were able to identify the additional dimensions of Thoughts and Denial. Such additional dimensions showed promise in predicting scores on the Mehrabian-Epstein Empathy scale.

Table 2
Two-Factor Unrotated Principal-Components Solution for Regulation Terms: Study 1

Response type	Situation type	Principal component: Denial	Principal component: Thoughts
Little reaction	Unpleasant	.64	—
No reaction	Unpleasant	.64	—
Little reaction	Pleasant	.60	—
Little reaction	Mixed	.59	.30
Thoughts	Neutral	−.43	.41
No reaction	Mixed	.41	—
No reaction	Neutral	.39	—
No reaction	Mixed	.38	—
Thoughts	Unpleasant	—	.70
Thoughts	Mixed	—	.58
Thoughts	Pleasant	—	.54
Little reaction	Neutral	—	−.36

Note. Items with both loadings below .25, and individual loadings below .25, are omitted.

It would be advantageous to be able to obtain such management dimensions in the context of a more traditional mood-state adjective scale format. This is desirable for the methodological reason that the multiple-situation scale above confounds terms with situations, as well as for the practical reason that it was our aim to broaden the measurement of mood states.

In Study 2, we used a modified mood state scale in which people were asked to record their emotions and thoughts (related to mood management). Once again, emotion-related and emotion-management-related terms were analyzed separately. The management domain was divided a priori into terms concerning active coping (e.g., "talk to someone"), suppression ("pretend okay"), acceptance of a given situation ("nothing can be done"), and denial ("no reaction"). These new, slightly elaborated classes of terms were based on exploratory, informal analyses of Study 1; they are described in the Method section below. The hypotheses of Study 2 were, again, that (a) clearer classifications of mood experience can be obtained by keeping emotion and emotion-management domains distinct and (b) additional dimensions of mood experience beyond those of Pleasant–Unpleasant and Arousal–Calm can add incremental validity to the prediction of criterion scales.

STUDY 2

Method

Subjects

The participants in this study were 211 undergraduates at the State University of New York at Purchase and Yale University, who participated for credit toward course requirements.

Present Reaction Scale

A list of 165 adjectives was compiled into the classes below. The items were randomized, and the instructions asked participants to respond to each item on a scale in terms of how well it described their present feelings and thoughts. A 4-point response scale, anchored at 1 (*definitely does not describe me now*) and 4 (*definitely describes me now*), was used.

Emotion-Related Responses

The emotion-related categories included differentiated, undifferentiated, external, cognitive, and physiological (sensations and reactions) terms. As in Study 1, terms from the differential emotions, external, and cognitive categories were taken from Clore et al. (1987, Appendix B). Bodily sensations and reactions terms were also taken from Clore et al., but were supplemented with terms from other studies of physical reactions (Lyman & Waters, 1986; Nieuwenhuyse et al., 1987; Shields, 1984). Undifferentiated emotions were compiled by the authors for this study. The actual terms used were as follows:

Differentiated emotions (20 items). These included the following positive terms: affection, amused, awestruck, cheerful, ecstatic, excited, grateful, joyful, loving, and self-satisfied; and the following negative terms: angry, blue, fear, guilt, humiliated, hurt, lonely, nervous, panicked, and shameful.

Undifferentiated emotions (14 items). These included the following positive terms: fine, glad, good, happy, okay, pleasant, and positive; and the following negative terms: bad, mad, negative, not okay, poor, sad, and unpleasant.

Bodily sensations (16 items). These included the following: awareness of heartbeat, burning ears, burning face, cold hands, dry mouth, flushed face, general restlessness, goosebumps, lightheaded, lump in throat, shaky hands, sweaty, sweaty hands, tense body, tingly, and upset stomach.

Bodily reactions (17 items). These included the following positive terms: breathless, comfortable, healthy, refreshed, relaxed, rested, and well; and the following negative terms: drowsy, faint, fatigued, hungry, jittery, nauseous, numb, pained, sleepy, and thirsty.

External conditions (19 items). These included the following positive terms: cared for, eloquent, influential, involved, praised, privileged, social, superior, successful, and trustworthy; and the following negative terms: abandoned, abused, alone, cheated, deprived, helpless, insulted, oppressed, and ugly.

Cognitive states (20 items). These included the following positive terms: adventurous, amusement, attraction, beloved, carefree, certain, charitable, enthusiastic, refreshed, and thankful; and the following negative terms: aloof, apprehensive, baffled, cautious, contemptible, disagreeable, indignant, lazy, petty, and shy.

Management-Related Terms

The emotion-management terms were compiled by the authors for Study 2, with most classes based on the results of the preliminary study and Study 1. The classifications, which were expected to be partially recombined in the principal-components analysis, were divided into four categories on the basis of the exploratory factor analyses referred to in the discussion of Study 1.

Thoughts of external action (22 items). These included the following: attend religious services, avoid it, change self, change something, do something, eat something, explain something, find out more, get advice, get away, get help, go out, keep going, need to continue, pray, take a break, talk it over, talk to someone, visit someone, work harder, work something out, and worship.

Acceptance (10 items). These included the following: accept it, can't change the past, don't change it, don't look back, it's over, leave as is, nothing can be done, okay as is, out of my hands, and out of my control.

Self-concern (15 items). These included the following: defend self, deserve more, disguise hurt, don't think about it, get more money, get more respect, get what I deserve, prepare explanation, pretend, pretend no problem, pretend okay, protect self, receive more love, think about something else, and unfair treatment.

Little or no reaction (12 items). These included the following: few feelings, few thoughts, little emotion, little reaction, little response, no emotion, no feelings, no mood, no reaction, no response, unemotional, and weak mood.

Related Measures

The Mehrabian–Epstein Empathy Scale and the Beck Depression Inventory were repeated from Study 1. In addition, the Marlowe–Crowne Social Desirability Scale (Crowne & Marlowe, 1960), which has been conceptualized as a measure of defense, was substituted for the alexithymia scale used in Study 1, because the alexithymia scale correlated quite highly with other scales of negative mood and depression in that study. These scales were administered to the State University of New York sample only.

Procedure

Students completed a 10-page booklet containing the Present Reactions Scale and, for approximately half the sample, the remaining scales. They were tested in small groups. The instructions for the completion of the Present Reactions Scale and the other scales were included in the booklet; instructions were also repeated orally by the experimenter. All questionnaires were completed anonymously.

Results

Overview of the Data Analysis

Principal-components analyses were performed separately on different item domains. First, all of the emotion-related words were examined together. For reasons discussed below, the emotion-related terms were further divided into physiological, emotional, and cognitive/external classes, which were examined separately. Next, the emotion-management domain was examined. The final section of the results addresses the relationships among the emotion-related and management-related alternatives and their predictions to the criterion scales.

Emotion-Related Terms

A principal-components analysis of the emotion words was first conducted. A scree criterion suggested a two-component solution (first 5 eigenvalues: 23.2, 9.3, 3.4, 3.2, and 2.6). Items from the emotions classes (physical reactions, physical sensations, differentiated and undifferentiated emotions, cognitive, and external terms) all blended together, clearly forming the Pleasant–Unpleasant and Arousal–Calm dimensions. To allow additional examination, the domain can be subdivided still further into physical sensations (bodily sensations and reactions), emotions (undifferentiated and differentiated emotion), and cognitions (cognitive state and external conditions) to deter-

mine whether each subdomain would individually generate this two-component solution.

Scree criteria on each subdomain suggested that either a two- or three-component solution would be appropriate (first 5 eigenvalues: physical, 7.5, 3.4, 1.7, 1.5, and 1.4; emotion, 11.0, 4.5, 1.4, 1.1, and .85; and cognition: 7.9, 3.8, 1.9, 1.7, and 1.6). Overall, the two-component solutions were more interpretable and therefore were retained. As can be seen in Table 3, Pleasant–Unpleasant and Arousal–Calm components could be clearly identified in each instance. The two components accounted for 33.0% of the variance of physical terms, 45.5% of emotional terms, and 29.8% of cognitive terms.

Management Terms

The managment terms (acceptance, thoughts of external action, self-concern, and no response) were analyzed together in a principal-components analysis, and a varimax rotation was used to enhance the interpretation of the result. Here, a three-component solution was most interpretable and was retained (first 5 eigenvalues: 8.1, 6.3, 3.1, 2.4, and 2.0). The three components extracted accounted for 29.6% of the variance. The two highest loadings on the first component, Suppression, were *pretend* and *nothing can be done.* The two highest loadings on the second component, Thoughts of Action, were *talk to someone* and *talk it over.* The two highest loadings on the third component, Denial, were *no emotion* and *unemotional.* The full solution can be seen in Table 4.

Intercorrelations and Indices of Reliability Among Dimensions

A rough indication of the reliabilities of the factor scales was obtained by constructing brief scales of 6 to 10 adjectives, based on factor loadings, corresponding to the emotion- and management-related dimensions; these scales, which might be comparable to the full factor scales, each had coefficient alpha reliabilities above .80.

Table 5 illustrates that Pleasant–Unpleasant dimensions extracted from the subdomain of pure emotion terms correlated very highly with the Pleasant–Unpleasant domain extracted independently from the subdomain of physical terms, $r(194) = .75$, $p < .001$, and from the subdomain of cognitive terms, $r(192) = .89$, $p < .001$. Thus, the three subdomains appear nearly equivalent in what they measure. The correlations among the emotion and management dimensions can be seen in Table 5. This table shows, for example, that a poorer mood was associated with less coping and more suppression.

Predictions of Criterion Scales

As can also be seen in Table 5, many of the scales had interesting correlations with the criterion scales. Empathy, for example, was again predicted by low Denial scores. Our final prediction concerned the fact that the use of scales beyond the Pleasant–Unpleasant and Arousal–Calm set would enhance prediction of the various criterion scales. Hierarchical regressions for each criterion measure were again conducted. The first step of the regression predicted a given criterion scale (e.g., Empathy) with the Pleasant–Unpleasant and Arousal–Calm dimensions from the pure emotional terms. The second step involved adding all other dimensions, including the Pleasant–Unpleasant and Arousal–Calm dimensions for the Physical and the Cognitive terms, as well as the Thoughts of Actions, Suppression, and Denial scales. F tests for change in the multiple R showed that the additional scales led to an enhancement of prediction that approached or exceeded statistical significance in each case. As seen in Table 6, scales of emotion-related aspects of experience, as well as those of management-related experience, contributed to the incremental improvements for the different scales. The final multiple Rs ranged from $R(110–112) = .39$ to .66 for the criterion scales.

Discussion

Study 2 examined, in separate analyses, emotion-related and management-related experiences. The emotions domain was well represented by the traditional two-dimensional Pleasant–Unpleasant and Arousal–Calm dimensions. Separate analyses of the physical, emotional, and cognitive subdomains showed the identical two-factor structure. In addition, the Pleasant–Unpleasant dimensions extracted separately from these three domains were highly intercorrelated, suggesting their functional equivalence. The emotion-management terms, on the other hand, were characterized by three quite different experiential dimensions, including Thoughts of Action, Suppression, and Denial. These additional dimensions provided incrementally significant predictions of personality variables above and beyond those found when using the two-dimensional emotion framework. The implications of these results are discussed below.

GENERAL DISCUSSION

The Measure of Mood Experience

In both Studies 1 and 2, separate analyses were conducted for those terms designated as emotion related and those designated as emotion-management related. This procedure facilitated the emergence of experience dimensions of mood, beyond Pleasant–Unpleasant and Arousal–Calm dimensions, that are conceptually clearer than those that have been found in the past. Emotion-management-related experience, in particular, yielded dimensions of Thoughts and Denial in Study 1, and, with improved methods, Thoughts of Action, Suppression, and Denial in Study 2. Collectively, the dimensions that were obtained contributed to improvements in predictions of standard individual differences measures such as those measuring empathy, depression, and social desirability. Thus, these new domains appear functionally useful, as well as descriptively interesting. The individual domains and their dimensions are examined next.

Analysis of Emotion-Related Experience

Emotion-related responses collectively could be described by the Pleasant–Unpleasant and Arousal–Calm dimensions. The

Table 3
Two-Factor Unrotated Principal-Components Solutions for Physical, Emotional, and Cognitive Terms Analyzed Separately: Study 2

	Principal component			Principal component			Principal component	
Physical domain	Unpleasant–Pleasant	Arousal–Calm	Emotional domain	Pleasant–Unpleasant	Arousal–Calm	Cognitive domain	Pleasant–Unpleasant	Arousal–Calm
Tense body	.65	—	Happy	.82	—	Enthusiastic	.71	—
Pained	.60	—	Positive	.75	—	Alone	−.69	—
Comfortable (physically)	−.59	—	Joyful	.72	.42	Successful	.64	—
Numb	.59	—	Fine	.71	—	Abandoned	−.59	.33
Faint	.59	—	Glad	.71	—	Praised	.58	—
Breathless	.57	.36	Sad	−.71	.39	Helpless	−.57	—
Jittery	.57	—	Negative	−.68	—	Insulted	−.57	.42
Well	−.55	—	Good	.67	.34	Certain	.55	—
			Not okay	−.65	—	Refreshed	.55	—
Upset stomach	.55	—	Cheerful	.65	.30	Cheated	−.55	—
Nauseous	.54	—	Unpleasant	−.65	—	Oppressed	−.54	.34
Relaxed (physically)	−.53	.35	Pleasant	.65	.32	Careful	.54	.34
Fatigued	.53	−.44	Mad	−.64	.37	Cared for	.51	—
Drowsy	.52	−.45	Blue	−.64	—	Abused	−.48	—
Healthy	−.52	.32	Angry	−.62	.39	Ugly	−.46	—
Shaky hands	.51	—	Hurt	−.59	.44	Depressed	−.45	—
Sleepy	.50	−.42	Self-satisfaction	.56	—	Adventurous	.44	.33
						Baffled	−.43	.37
Burning face	.48	.36	Nervous	−.53	.49			
Goosebumps	.48	.40	Affection	.52	.46	Eloquent	.43	.36
Lump in throat	.46	—	Loving	.52	.50	Involved	.42	—
Thirsty	.45	—	Lonely	−.51	—	Thankful	.42	.39
General restlessness	.42	—	Ecstatic	.49	.40	Disagreeable	−.41	—
Dry mouth	.39	—	Grateful	.49	.42	Beloved	.41	.33
Burning ears	.38	.33	Humiliated	−.48	.45	Attraction	.39	.39
Lightheaded	.32	—	Panicked	−.47	.41	Privileged	.39	.33
			Shameful	−.44	.40	Lazy	−.38	—
Rested	−.47	.57				Social	.35	—
Refreshed	−.53	.55	Okay	.42	—			
Flushed face	.39	.51	Bad	−.39	—	Petty	−.29	—
Tingly	.32	.46	Poor	−.37	—	Cautious	—	.49
Sweaty hands	.30	.44	Fear	−.37	.55	Superior	.32	.44
Sweaty	.34	.41	Guilt	−.40	.52	Appreciated	−.35	.44
Awareness of heartbeat	—	.41	Excited	.44	.48	Amused	.42	.43
Cold hands	—	.37	Awestruck	—	.47	Shy	−.35	.42
			Amused	.31	.46	Influential	.30	.39
						Charitable	.34	.39
						Contemptible	—	.35
						Trustworthy	—	.33
						Indignant	—	.29
						Aloof	—	—

Note. Loadings below .30 are not reported. $N = 193–196$.

emotion-related domain, however, could be further divided into three subdomains of terms: the *physical, emotional,* and *cognitive* subdomains based on the psycholinguistic work of Clore et al. (1987). Each of these subdomains yielded the Pleasant–Unpleasant and Arousal–Calm mood dimensions. Furthermore, the Pleasant–Unpleasant dimensions derived from each of the three subdomains are highly intercorrelated, suggesting their functional near-equivalence. Such a finding suggests that a single set of two dimensions based on all three domains together could be used, as is presently done in cognition and affect research. The individual physical, emotional, and cognitive domains, however, may sometimes be of interest. It appears reasonable to preserve the distinction in special cases, as the terms can be discriminated psycholinguistically (Clore et al., 1987), and they are incrementally predictive here.

Analysis of the Emotion-Management-Related Experience

Emotion-management-related terms commonly have been excluded from contemporary mood scales because they are theoretically incompatible with the search for pure emotion dimensions. Assigning them to their own domain preserves pure emotion dimensions and permits the examination of mood-management experience to go forward. The reintroduced terms formed a three-component solution that expands emotional experience well beyond Pleasant–Unpleasant and Arousal–Calm dimensions of mood. The components were (a) Thoughts of Action, (b) Suppression, and (c) Denial. The Thoughts of Action dimension reflects thoughts about changing the mood-eliciting situation. The Suppression dimension

Table 4
Three-Factor Varimax-Rotated Principal-Components Solution for Regulation Terms: Study 2

Item	Emotion-management domain			Item	Emotion-management domain		
	Suppression	Thoughts of action	Denial		Suppression	Thoughts of action	Denial
Pretend	.73	—	—	Need to continue	—	.46	—
Nothing can be done	.64	—	—	Visit someone	—	.45	—
Out of my control	.63	—	—	Change something	—	.44	—
Pretend no problem	.62	—	—	Get help	—	.43	—
Pretend okay	.61	—	—	Prepare explanation	—	.41	—
Weak mood	.60	—	—	Keep going	—	.40	—
Disguise hurt	.56	—	—	Do something	—	.40	—
It's over	.56	—	—	Change self	—	.40	—
Avoid it	.51	—	—	Worship	—	.39	—
Think about something else	.50	—	—	Pray	—	.34	—
Deserve more	.48	—	—	Receive more love	—	.34	—
Don't think about it	.46	—	—	Get what I deserve	—	.33	—
Get away	.45	—	—	Attend religious services	—	.30	—
Unfair treatment	.43	—	—	Go out	—	.28	—
Don't look back	.38	—	—	Accept it	—	.28	—
Take a break	.37	—	—	Eat something	—	.25	—
No response	.34	—	—	Get more money	—	—	—
Can't change the past	.32	—	—	No emotion	—	—	.72
Okay as is	−.32	—	—	Unemotional	—	—	.67
Talk to someone	—	.64	—	No response	—	—	.64
Talk it over	—	.64	—	Little reaction	—	—	.63
Find out more	—	.62	—	Few feelings	—	—	.62
Get more respect	—	.58	—	No mood	—	—	.61
Explain something	—	.57	—	No reaction	—	—	.60
Protect self	—	.53	—	Little response	—	—	.59
Work something out	—	.53	—	Little emotion	—	—	.50
Get advice	—	.51	—	Few thoughts	—	—	.48
Defend self	—	.51	—	Leave as is	—	—	.46
Work harder	—	.47	—	Don't change it	—	—	.41

Note. Loadings below .30 are not reported. $N = 193$.

reflects reallocation of attention away from the situation and its concomitant feelings. Finally, the Denial dimension involves a blocking out of the situation and its feelings.

The Experience of Emotion Management and Its Relation to Coping and Defense

The emotion-management experience studied here bears much in common with conceptions of defense mechanisms (A. Freud, 1946) and with styles of coping (Lazarus & Folkman, 1984). At first, it may indeed seem surprising to be able to detect and measure such thoughts as "pretend everything's okay," which is typically associated with defenses such as repression because repression is supposed to be unavailable to experience. Such thoughts, however, were spontaneously produced when we asked subjects to list thoughts in response to events (see Method section of Study 1). This provides good evidence that such experience is typically part of people's reactions to evocative situations accompanying emotional reactions. We need not consider such management-related experiences as the defenses themselves. They may be precursors to defense, as when individuals decide to "pretend it's okay," or the outcomes of defense, as when individuals feel "no emotion" after denial. Although central aspects of defense mechanisms may not enter into awareness, these suppression and denial-related experiences are probably related to the defenses themselves. Note that suppression increases as the mood becomes more negative. Denial, on the other hand, is ostensibly unrelated to negative mood, possibly because the individual has experienced nothing that would elicit any feelings. But the reason for the lack of relation between Denial and Pleasant–Unpleasant mood may also be that the individual's negative feelings are no longer available to consciousness. The fact that high denial is associated with lower empathy scores suggests that it may be part of a generally constricted emotional experience.

Speculation on the Potential Relations Between Emotion and Emotion-Management Components of Mood

The management-related dimensions examined here can be thought of as falling along a continuum from openness to a

Table 5
Intercorrelations Among Experience Dimensions and Criterion Scales: Study 2

	Reactions						Criterion scale		
	Emotional			Coping					
	1	2	3	4	5	6	7	8	9
	Emotional reaction								
1. Physical[a]	1.00	.75**	.69**	−.01	−.67**	−.06	−.07	−.47**	.29**
2. Emotion	.75**	1.00	.89**	.25**	−.69**	−.06	.06	−.56**	.32**
3. Cognition	.69**	.89	1.00	.27**	−.65**	−.11	−.00	−.55**	.40**
	Coping reaction								
4. Thoughts of action	−.01	.25**	.27**	1.00	.00	.00	.03	−.15	.26**
5. Suppression	−.67**	−.69**	−.65**	.00	1.00	.00	.10	.60**	−.15
6. Denial	−.06	−.06	−.11	.00	.00	1.00	−.18*	.01	−.01
	Criterion scale								
7. Empathy	−.07	.06	−.00	.03	.10	−.18*	1.00	.18	−.01
8. Beck	−.47**	−.56**	−.55**	−.15	.60**	.01	.18*	1.00	−.23*
9. Marlowe-Crowne	.29**	.32**	.40**	.26**	−.15	−.01	−.01	−.23**	1.00

Note. $N = 192–196$ for experience dimensions, and $N = 111–115$ for criterion dimensions.
[a] The Pleasant–Unpleasant dimension of the Physical Sensation scale was reversed to conform with the direction of the other emotion scales.
* $p < .05$. ** $p < .01$.

situation and its feelings (Thoughts), on the one hand, to blocking out such thoughts and feelings, on the other (Denial). As noted in the introduction, emotion management does not exist independently of emotion. That is, emotion and emotion management take place concurrently in response to a stimulus. Because they are joined functionally by being reactions to the same evocative situation, they may share certain formal characteristics with one another. One possibility is that both emotions and emotion management reflect formal qualities of the behaviors they signal. For example, the emotion *love* may involve approaching a person, and the thought of action *talk to someone* similarly involves an approach. *Fear* involves avoiding a

Table 6
Hierarchical Regressions for the Prediction of Criterion Scales

	Criterion scale		
Variables entered	Empathy	Beck	Marlowe-Crowne
	Step 1		
Multiple R	.20	.56**	.33**
Beta weights for individual variables			
Pleasant–Unpleasant (emotion)	.19*	−.56**	.33**
Arousal–Calm (emotion)	.06	.04	.04
	Step 2		
Multiple R	.39*	.66**	.47**
Significance of change	$p < .06$	$p < .01$	$p < .04$
Beta weights for individual variables			
Pleasant–Unpleasant (physical)	.16	−.04	−.20
Arousal–Calm (physical)	−.20	−.03	.11
Pleasant–Unpleasant (cognition)	−.13	−.13	.37*
Arousal–Calm (cognition)	−.10	.21	.03
Thoughts of Action	−.07	−.13	.20
Suppression	.21	.37**	.21
Denial	−.17	.04	−.04
n	113	110	114

* $p \leq .05$. ** $p < .005$.

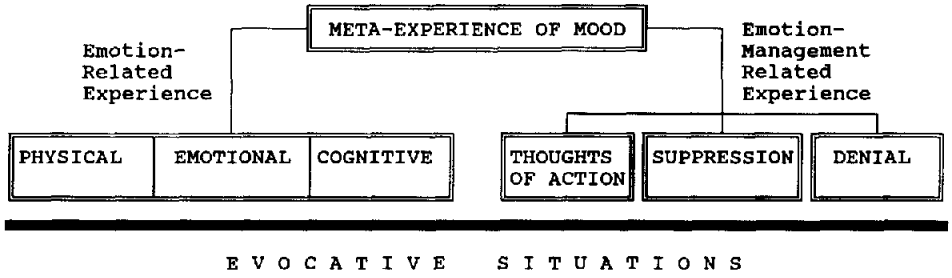

Figure 1. Model of emotion-related and emotion-management-related experience.

situation, and the suppressive reaction *pretend it's okay* involves avoiding the situation and the feeling it elicits. Similarly, *anger* can involve eliminating a threat; the denying response *no feelings* can involve eliminating a feeling. These shared relations between emotions and emotion management mechanisms were recognized in part in Horney's (1945) concepts of moving toward, away, and against sources of threat. Emotion-related and management-related processes may each correspond in part to the same, more primitive functions of approach, avoidance, and elimination, which developed evolutionarily (e.g., Plutchik, 1980) or through learning.

The Contribution of a Multiple Domains Approach to Measuring Mood

At the outset of this article, a brief historical summary illustrated how the multiple-dimension (as opposed to multidomain) tradition of mood measurement examined the rich contents of mood but arrived at conceptually unclear factorial descriptions. The two-dimension approach yielded clear factors, but at the cost of excluding much richness of experience. The multidomain approach used here begins by dividing mood into emotion and emotion-management domains. This multidomain approach permitted the extraction of more clean, diverse factors to represent mood experience than has previously been possible.

A diagram of the multidomain framework for mood experience can be seen in Figure 1. This shows the three Physical, Emotional, and Cognitive aspects of mood, on the left side, and the three Thoughts of Action, Suppression, and Denial aspects on the right. The latter aspects are represented in separate boxes to denote the fact that they are orthogonal to one another. One additional domain illustrated in the top portion of the figure is the meta-experience, or reflective experience, of mood (Mayer & Gaschke, 1988). This meta-experience is involved in monitoring, evaluating, and sometimes acting to change mood, and is a domain studied at length in other multidomain examinations of mood experience (e.g., Mayer & Gaschke, 1988; Mayer, Gaschke, Braverman, & Evans, 1990; Mayer et al., 1988; Mayer & Stevens, 1991; Salovey, Mayer, Goldman, Turvey, & Palfai, 1991). A person may manage and consciously regulate his or her emotions well or poorly. Some individual differences in these and related capacities have been examined elsewhere (Mayer, DiPaolo, & Salovey, 1990; Salovey & Mayer, 1990). In these examinations, the capacity to engage in successful affective self-management has been termed *emotional intelligence*, and its importance to adaptive intrapsychic and interpersonal functioning has been argued.

Although this model is highly schematic, it is sufficient at its present level of detail to show the many aspects of rich, internal experience that have sometimes been overlooked during contemporary examinations of mood experience. The point we are trying to make concerning such research is that when there is time for more complete measurement, rich experience need not become a forgotten part of mood. Such experience is not simply an epiphenomenon of conscious awareness, unrelated to other psychological processes; rather, it has functional utility in that it can enhance predictions of other personality traits, and it may also reflect and illuminate some of the processes that underlie moods.

References

Beck, A. T. (1967). *Depression: Causes and treatment.* Philadelphia: University of Pennsylvania Press.

Breckler, S. J. (1990). Applications of covariance structure modeling in psychology: Cause for concern? *Psychological Bulletin, 107,* 260–273.

Burke, M. J., Brief, A. P., George, J. M., Roberson, L., & Webster, J. (1989). Measuring affect at work: Confirmatory analyses of competing mood structures with conceptual linkage to cortical regulatory systems. *Journal of Personality and Social Psychology, 57,* 1091–1102.

Clore, G. L., Ortony, A., & Foss, M. A. (1987). The psychological foundation of the affective lexicon. *Journal of Personality and Social Psychology, 53,* 751–766.

Crowne, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology, 24,* 349–354.

Cudeck, R. (1986). A note on structural models for the circumplex. *Psychometrika, 51,* 143–147.

Diener, E., & Emmons, R. A. (1984). The independence of positive and negative affect. *Journal of Personality and Social Psychology, 47,* 1105–1117.

Ekman, P., & Friesen, W. V. (1975). *Unmasking the face—A guide to recognizing emotions from facial cues.* Englewood Cliffs, NJ: Prentice-Hall.

Folkman, S., & Lazarus, R. S. (1985). If it changes it must be a process: Study of emotion and coping during three stages of a college examination. *Journal of Personality and Social Psychology, 48,* 150–170.

Freud, A. (1946). *The ego and the mechanisms of defence.* New York: International Universities Press.

Horney, K. (1945). *Our inner conflicts.* New York: Norton.

James, W. (1890). *The principles of psychology.* New York: Holt.

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping.* New York: Springer.

Lorr, M., McNair, M. D., & Fischer, S. (1982). Evidence for bipolar mood states. *Journal of Personality Assessment, 46,* 432–436.

Lyman, B., & Waters, J. C. E. (1986). The experiential loci and sensory qualities of various emotions. *Motivation and Emotion, 10,* 25–37.

Mayer, J. D., DiPaolo, M. T., & Salovey, P. (1990). Perceiving affective content in ambiguous visual stimuli: A component of emotional intelligence. *Journal of Personality Assessment, 54,* 772–781.

Mayer, J. D., & Gaschke, Y. (1988). The experience and meta-experience of mood. *Journal of Personality and Social Psychology, 55,* 102–111.

Mayer, J. D., Gaschke, Y. N., Braverman, D. L., & Evans, T. (1990). *Natural mood and mood-congruent judgment.* Manuscript submitted for publication.

Mayer, J. D., Mamberg, M., & Volanth, A. J. (1988). Cognitive domains of the mood system. *Journal of Personality, 56,* 453–486.

Mayer, J. D., & Stevens, A. (1991). *Describing the meta-experience of mood.* Manuscript in preparation.

Mayer, J. D., & Volanth, A. J. (1985). Cognitive involvement in the mood response system. *Motivation and Emotion, 9,* 261–275.

Mehrabian, A., & Epstein, N. (1972). A measure of emotional empathy. *Journal of Personality, 40,* 525–543.

Nieuwenhuyse, B., Offenberg, L., & Frijda, N. H. (1987). Subjective emotion and reported body experience. *Motivation and Emotion, 11,* 169–182.

Nowlis, V. (1965). Research with the Mood Adjective Checklist. In S. S. Tomkins & C. E. Izard (Eds.), *Affect, cognition, and personality* (pp. 98–128). New York: Springer.

Nowlis, V. (1970). Mood: Behavior and experience. In M. B. Arnold (Ed.), *Feelings and emotions* (pp. 261–277). New York: Academic Press.

Nunnally, J. (1978). *Psychometric theory* (2nd ed.). New York: McGraw-Hill.

Plutchik, R. (1980). *Emotion: A psychoevolutionary synthesis.* New York: Harper & Row.

Roseman, I. J. (1984). Cognitive determinants of emotions: A structural theory. In P. Shaver (Ed.), *Review of personality and social psychology: Volume 5. Emotions, relationships, and health* (pp. 11–36). Beverly Hills, CA: Sage.

Russell, J. A. (1979). Affective space is bipolar. *Journal of Personality and Social Psychology, 37,* 1152–1168.

Russell, J. A., & Mehrabian, A. (1977). Evidence for a three-factor theory of emotions. *Journal of Research in Personality, 11,* 273–294.

Salovey, P., & Birnbaum, D. (1989). Influence of mood on health-relevant cognitions. *Journal of Personality and Social Psychology, 57,* 539–551.

Salovey, P., & Mayer, J. D. (1990). Emotional intelligence. *Imagination, Cognition, and Personality, 9,* 185–211.

Salovey, P., Mayer, J. D., Goldman, S., Turvey, C., & Palfai, T. (1991). *The Trait Meta-Mood Scale: A measure of mood attention, clarity, and regulation—Three components of emotional intelligence.* Manuscript submitted for publication.

Schachter, S., & Singer, J. E. (1962). Cognitive, social and physiological determinants of emotional state. *Psychological Review, 69,* 379–399.

Scherer, K. R. (1986). Emotion experiences across European cultures: A summary statement. In K. R. Scherer, H. G. Wallbott, & A. B. Summerfield (Eds.), *Experiencing emotion: A cross-cultural study* (pp. 173–189). Cambridge, England: Cambridge University Press.

Shaver, P., Schwartz, J., Kirson, D., & O'Connor, C. (1987). Emotion knowledge: Further exploration of a prototype approach. *Journal of Personality and Social Psychology, 52,* 1061–1086.

Shields, S. A. (1984). Reports of bodily change in anxiety, sadness, and anger. *Motivation and Emotion, 8,* 1–21.

Simon, H. (1982). Affect and cognition: Comments. In M. S. Clark & S. T. Fiske (Eds.), *Affect and cognition* (pp. 333–342). Hillsdale, NJ: Erlbaum.

Taylor, G. J. (1984). Alexithymia: Concept, measurement, and implications for treatment. *American Journal of Psychiatry, 141,* 725–732.

Taylor, G. J., Ryan, D., & Bagby, R. M. (1985). Toward the development of a new self-report alexithymia scale. *Psychotherapy and Psychosomatics, 44,* 191–199.

Thayer, R. E. (1989). *The biopsychology of mood and arousal.* New York: Oxford University Press.

Wahler, H. J. (1968). The physical symptoms inventory: Measuring levels of somatic complaining behavior. *Journal of Clinical Psychology, 24,* 207–211.

Watson, D., & Tellegen, A. (1985). Toward a consensual structure of mood. *Psychological Bulletin, 98,* 219–235.

Wundt, W. (1969). *Outlines of psychology* (C. H. Judd, Trans.). St. Clair Shores, MI: Scholarly Press. (Original work published 1897)

Zevon, M. A., & Tellegen, A. (1982). The structure of mood change: An idiographic/nomothetic analysis. *Journal of Personality and Social Psychology, 43,* 111–122.

Zuckerman, M., Lubin, B., Vogel, L., & Valerius, E. (1964). Measurement of experimentally induced affects. *Journal of Consulting Psychology, 28,* 418–425.

Received July 18, 1989
Revision received March 21, 1990
Accepted June 26, 1990 ■