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The Psychological Foundations of the Affective Lexicon

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Subjects rated their confidence that each word from a set of 585 words referred to an emotion. As a strategy for discriminating words that refer to genuine emotions from words that refer to other kinds of conditions, ratings were collected in two different linguistic contexts: first, in the context of *feeling something* and second, in the context of *being something*. We hypothesized that words that referred to genuine emotions would be judged as such when presented in the context of feeling or being (e.g., *feeling angry* and *being angry* should both be rated as emotions). Words not referring to genuine emotions, however, were expected to show one of several other patterns. For example, words such as *abandoned*, which refer to objective states of the world, were expected to be rated as emotions in the feeling context but not in the being context. A discriminant analysis showed that such patterns could be used to distinguish the categories of a taxonomy of psychological conditions that Ortony, Clore, and Foss (1987) have proposed. The most discriminable categories were the four classes of affective, cognitive, external, and bodily conditions.

When is a feeling an emotion? One can experience many kinds of feelings; one can feel sleepy, certain, proud, or abandoned. One can even feel like eating Chinese food. All of these are legitimate uses of the term *feeling*, but not all of them refer to emotions. Before an adequate theory of emotion can be developed, some criteria must be established for separating emotional from nonemotional feelings. Without such criteria, one has no way of knowing to what the theories refer. Psychologists have generally not concerned themselves with this problem, often using as stimuli in their studies words whose status as emotion terms is questionable. For example, it does not seem unreasonable to question the status of the following terms: *sleepy, tired,* and *relaxed* (Russell, 1980); *puzzled, curious,* and *receptive* (Plutchik, 1962); *boredom, impatience,* and *inspiration* (Davitz, 1969); and *luckiness, conflict,* and *rectitude* (Abelson, 1983).[1] Do these words refer to emotions? To address this question, one needs a principled criterion for distinguishing emotions from nonemotions, because in the absence of such a criterion, theoretical and empirical treatments of emotions are likely to be invalid and misleading. Some evidence of this is reported in Morgan and Heise (1986), who found that studies using only words that seem to be good examples of emotions yield rather different results from studies using a less strict criterion for selecting emotion terms from the general class of affective words. Our study was designed to test the validity of a taxonomy of affective concepts and to explore the effectiveness of a criterion that distinguishes emotions from other concepts in the affective lexicon.

Before going any further, we need to clarify a terminological issue that might otherwise be a source of misunderstanding. Throughout this article we use the term *affective* to refer to the positive or negative evaluation, or valence, inherent in the meaning of a term. More generally, we use the phrase *affective lexicon* to refer to that subset of words in a language that are about affect or affective conditions. Many, but by no means all, of the words in the affective lexicon refer to emotions. *Affect,* therefore, is being treated as a more general concept than is *emotion:* All emotions are affective, but not all affective conditions are emotions.

Other investigators have studied the structure of the affective lexicon, although usually with different goals than ours (e.g., Averill, 1975; Bush, 1973; Dahl & Stengel, 1978; Davitz, 1969; Russell, 1980). Typically, they have applied multidimensional scaling and factor analytic procedures to presumed emotion words in attempts to discover the structure of emotions. That is, they have assumed that their stimulus words refer to emotions and have used such procedures to determine dimensions in terms of which emotions can be discriminated from one another. But what would be the consequences if some of the stimulus words used in such studies were in fact not emotion words at all? An obvious consequence is that this would reduce one's confidence that the resulting dimensions or factors described the structure of emotions properly.

We see other problems with the kind of findings that result from many scaling studies of emotions. Because of the nature of the judgment task, such studies often yield rather general dimensions that are not particularly informative with respect to

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[1] We should note that Abelson (1983) acknowledged that rectitude may not be a good example of an emotion.

the kinds of questions that ought to concern emotion theorists. For example, the two dimensions (often interpreted as *valence* and *arousal*) most frequently discovered by scaling procedures appear to have no particular relation to emotions. One is simply Osgood's *evaluation* dimension (E), and the other is easily interpreted as a combination of his *potency* (P) and *activity* (A) dimensions (Osgood, Suci, & Tannenbaum, 1957). But these, of course, are universal dimensions in terms of which any concept can be scaled. If this is correct, then nothing unique about the nature of emotions has been discovered unless, perhaps, it can be shown that all and only emotions occupy a unique subregion in the space the dimensions define. However, Osgood, May, & Miron's (1975) data suggested that this is not the case. It is easy to find ratings of emotions in their data that are more similar to ratings of nonemotions than they are to ratings of other emotions. For example, the E, P, and A ratings for *sympathy* (1.6, 0.6, 0.3) are closer to those for *food* (1.8, 0.5, 0.3) than they are for, say, *love* (2.0, 1.2, 0.8); see also Carroll (1959). Thus, dimensions of this kind are so general that they are quite uninformative with respect to identifying features that distinguish emotions from other things. They reveal no principled definitive differences between emotions (e.g., *sympathy*) and things having nothing whatsoever to do with emotions (e.g., *food*). Nor are they informative with respect to distinguishing one type of emotion, say, *anger* (construed as representing all anger tokens, such as *annoyed, irritated, furious,* and *enraged*) from another type, say *fear.* Because intensity is not likely to be an important feature for distinguishing between different emotion types (as opposed to tokens), only valence would remain as a significant dimension in a typical two-dimensional solution (assuming that an arousal, that is, activity–potency, dimension reflects little more than intensity). It hardly seems plausible to suppose that the psychological difference between emotion types can be captured properly simply in terms of one dimension (e.g., valence). For these and similar reasons, we believe it is important to establish some criteria for distinguishing emotion terms from other terms in the affective lexicon before one can even hope to discover anything informative about emotions by using scaling methods.

A Taxonomy of Affective Conditions

In Ortony, Clore, and Foss (1987), we proposed an account of the referential structure of approximately 500 words in the affective lexicon, using constructs that were independent of any particular theory of emotion. In the study presented in this article, we investigated whether subject ratings of essentially the same sample of words could be used to discriminate the categories of that taxonomy (see Figure 1).

Figure 1 shows the salient features (enclosed in ellipses) in terms of which the different psychological conditions are distinguished. We present only a synopsis of the distinctions here; a more detailed account is presented in Ortony et al. (1987). The first main distinction is between words that refer to *Internal Conditions* and those that refer to *External Conditions.*[2] Terms that refer to Internal Conditions refer to conditions of the person of whom the term is predicated. These are typically, but not exclusively, experienced states. Words that refer to External Conditions do not refer directly to experiences of the person of whom they are predicated. Two kinds of External Conditions can be distinguished, namely *Subjective Evaluations* such as *sexy, peculiar,* and *weird,* and *Objective Descriptions* such as *alone, abandoned,* and *welcome.* The reason we call these External Conditions is that when one describes a person as sexy, or as abandoned, one is not referring directly to any particular experience of that person.[3]

As shown in Figure 1, two types of Internal Conditions are proposed: one comprising *Nonmental Conditions* and the other comprising *Mental Conditions.* The Nonmental Conditions include only Physical and Bodily States, referred to by terms such as *aroused, sleepy,* and *well.* The Mental Conditions give rise to five categories, depending on which of three major meaning components, affect, behavior, and cognition, are referentially focal. A *referentially focal* meaning component is one that constitutes a predominant part of the reference of a term rather than something that is merely implicated in its meaning. Of the categories for which affect is focal, we first identify a category of Affective States in which only affect is focal. This category includes states denoted by such terms as *happy, on-edge, dejected,* and *yearning.* Second, we identify a category of *Affective–Behavioral Conditions* to accommodate terms such as *cheerful, grouchy,* and *mournful* for which both affect and behavior are focal. Finally, we identify a category of *Affective–Cognitive Conditions,* in which both affect and cognition are focal, as they are for terms such as *encouraged, malice, despair,* and *worried.* These three categories together constitute what we call the *Affective Conditions class* and are enclosed in a box in the lower left of Figure 1. The two remaining Mental Conditions are those for which affect is not focal (although it is, of course, implicated). One of these, the *Cognitive Conditions* category, comprises the referents of words for which only cognition is focal (e.g., *certain, prejudiced, bewildered,* and *surprised*) and the other, the *Cognitive–Behavioral Conditions* category, consists of conditions for which both cognition and behavior are focal, such as those referred to by words such as *careful, greedy,* and *virtuous.* These two categories, shown in the box in the lower right of Figure 1, are referred to as the *Cognitive Conditions class.*

We hypothesized that the best examples of emotion words would be ones that refer to internal (as opposed to external) conditions, those that refer to mental (as opposed to physical) conditions, and those that have a significant focus on affect in the sense just described. If this is accurate, then emotions are

[2] When expressions such as Internal Conditions, External Conditions, and Subjective Evaluations are used specifically as names for hypothesized psychological conditions, they will be differentiated with initial capitalization throughout this article.

[3] There is, of course, a world of difference between words and their referents. In general, it is clear when we are talking about words and when we are talking about their referents. However, on occasion, for simplicity of exposition, we use phrases such as "Subjective Evaluation Words" as a shorthand for technically more correct phrases as "words that refer to members of the category of subjective evaluations."

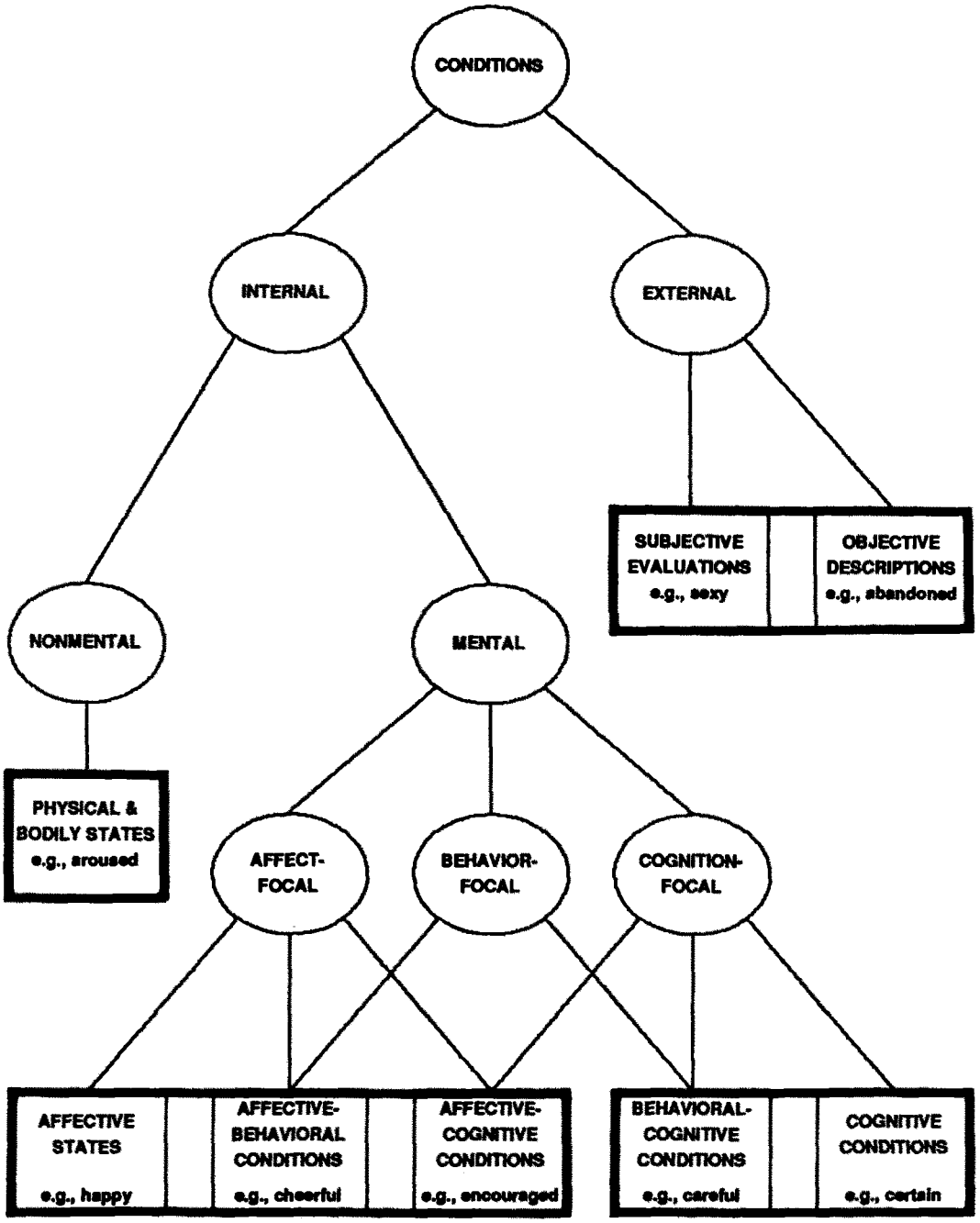

Figure 1. Taxonomy of psychological conditions proposed by Ortony, Clore, and Foss (1987). The psychological conditions of interest are shown in rectangles, and the features that differentiate them are shown in ellipses.

all members of one of the three affect–focal categories that constitute the Affective Conditions class, perhaps with the more prototypical ones being located in the Affective States category. Although in particular cases the decision as to how focal affect, behavior, and cognition are is sometimes difficult to make, the reliability between us was high overall.

Thus, to summarize, we have proposed eight different categories that can be collapsed into four broad classes. The categories are Subjective Evaluations and Objective Descriptions (which together constitute the External Conditions class), Cognitive Conditions and Cognitive–Behavioral Conditions (the Cognitive Conditions class), Physical and Bodily States (which is a

class of its own), and the categories of Affective States, Affective–Cognitive Conditions, and Affective–Behavioral Conditions (which constitute the Affective Conditions class). This taxonomy emerged from an analysis of a sample of almost 600 English words (see Appendix A) in which we considered to what kind of condition each term referred. As already indicated, a more detailed account of the linguistic and psychological bases for these distinctions can be found in Ortony et al. (1987).

Overview

The main purpose of this study was to test the validity of the classification scheme just outlined. The scheme is emphatically not a theory of emotion but is an approach to identifying those psychological states that need to be accounted for in theories of emotion. We attempted to determine whether the categories could be discriminated by using ratings of the degree to which words presented in two different linguistic contexts were judged to refer to emotions. The two contexts (feeling something vs. being something) were intended to maximize sensitivity to the difference between genuine emotions and nonemotional states, but we expected combinations of these ratings not only to separate emotion from nonemotion terms but also to discriminate the other psychological conditions in the taxonomy as well.

Our underlying assumption in this study was that feeling something is much more likely to seem like an emotion than is being something. Consider, for example, the word *ignored.* We assumed that subjects would be more likely to indicate that *feeling ignored* refers to an emotion more than *being ignored* does. If *being ignored* is not judged to be an emotion, we are not willing to accept the word *ignored* as referring to an emotion. This is not to deny that *feeling ignored* is an emotional feeling; it can be. It is likely to involve such emotions as disappointment and hurt feelings. However, the word *ignored,* by itself, does not refer to an emotion; it is entirely possible for someone to be ignored (and even to be aware of it) without caring about being ignored and, hence, without experiencing any concomitant emotion. Saying "I feel ignored" then, is an elliptical way of saying something similar to "I am being ignored, and I care that I am being ignored." The emotional content of *feeling ignored,* therefore, derives directly from the *feeling* part rather than from *ignored* itself. Consequently, being ignored need not involve anything emotional, although believing that one is ignored may well be the cause of an emotion (Ortony, in press).

The fact that the word *feeling* tends to bestow emotional meaning on terms that accompany it could constitute a problem for studies in which words are presented without a context, as is usually the case. Consider again the example of the word *ignored.* If one were to present subjects with the word *ignored* in isolation and ask them to rate their confidence that it referred to an emotion, some subjects might interpret it in terms of the nonemotional fact of *being ignored,* whereas other subjects would probably interpret it in terms of the emotional feelings implicit in the expression *feeling ignored.* The result would then be an apparent lack of agreement about whether or not *ignored* referred to an emotion. This problem is particularly acute with Objective Descriptions such as *ignored, abandoned,* and *abused,* which we have elsewhere (Ortony & Clore, 1981) referred to as *other action* words. To reduce the prospect of such interpretational ambiguity, subjects in this study were first asked to consider the form that we thought was more likely to be judged emotional (i.e., the feeling form). It was assumed that the elicitation of *feeling* judgments along with *being* judgments would, by sensitizing subjects to the difference between the two forms, reduce the possibility of subjects spontaneously reinterpreting the being form as the feeling form, thus reducing the likelihood of erroneous ratings of words in the being form.

Syntactic Forms

Although most of the words used as stimuli were adjectives or adjectival forms (past participles), some emotion words in English are better, or only, lexicalized as nouns or verbs. Therefore, we used three lists in this study: an adjective list, a noun list, and a verb list. Words from the adjective list were presented in both the feeling and being forms. However, nouns and verbs do not lend themselves to the same feel–be manipulation and were thus treated slightly differently. Nouns appeared both in the feeling form and as the unqualified noun because the feeling-noun form and the noun-alone forms can, for practical purposes, be treated as equivalent to the feeling-adjective and the being-adjective forms, respectively. Verbs appeared in each of three forms. For example, the verb *despise* appeared as *feeling despised,* as *being despised,* and as *despising* (*someone*). Adding the present (active) participle form (e.g., *despising* (*someone*)) is important for detecting emotions because in some cases the past participle cannot refer to Internal Conditions in the context of being (e.g., *being despised*), whereas the present participle can. This turns out to be generally true of noncausative verbs. Consider, for example, *admire* and *hate.* Neither *being admired* nor *being hated* refer to Internal Conditions and, hence, cannot be candidates for emotions, but *admiring* (*someone*) and *hating* (*someone*) do refer to Internal Conditions and are thus potential candidates.

Although much has been written in linguistics about the nature of causative verbs (e.g., Shibatani, 1976), in the context of this study, one can determine the difference between a causative and a noncausative verb by considering what is implied about the grammatical subject and object (in the active voice). For noncausative verbs, the focus is on some state or activity of the grammatical subject. For example, if we say "John hates Mary," John (the subject of the verb) is the experiencer of the affective state. On the other hand, in causative verbs the focus is on some resultant state of the person who is the grammatical object of the verb. If we say "John irritates Mary," Mary (the object) is the experiencer of that affective state. In other words, there is a syntactic constraint that precludes the possibility of the present participle of causative verbs (e.g., *irritating*) from being candidates as emotions. This constraint does not apply, however, to the present participles of noncausatives (e.g., *hating*) or to the past participles of causatives (e.g., *irritated*).

Hypotheses

As a test of the proposed structure for the affective lexicon, we examined the discriminability of the various categories using

ratings of the words in the different linguistic contexts. A consideration of the ways in which the ratings of words in each category should be similar and different in these two linguistic contexts led to the following predictions:

1. Words that refer to Affect–Focal Mental Conditions (i.e., the three categories in the Affective Conditions class) should show relatively little difference between the being form and the feeling form, both tending to be rated as emotions. For example, *feeling angry* and *being angry* should both be rated as emotions. The basis of this prediction is the assumption that the function of *feeling* is to indicate that an emotion is experienced in association with the predicated situation. If, however, the predicated situation is itself an emotion (e.g., *being angry*), then the feeling form may intensify the focus on the emotional nature of the state but it cannot create it, because the emotion is already presupposed in virtue of the presence of the emotion word.

2. Words that refer to Objective Descriptions or Subjective Evaluations (i.e., in the External Conditions class) should be rated as referring to emotions in their feeling form to a significantly greater degree than in their being form. For example, *feeling abandoned* and *feeling stupid* are likely to be rated as more emotional than are *being abandoned* and *being stupid.* This is because in their feeling forms, the emotional aspects of expressions associated with being in the predicated situation are highlighted. Whereas in their feeling forms these terms can be expected to receive ratings similar to those for emotion terms, in their being forms they should be quite discriminable from emotions, because they share none of the critical features of emotions (which include being an internal, mental state with a focus on affect). We predicted, therefore, that the ratings of terms that refer to Objective Descriptions and Subjective Evaluations would tend to have large differences between the feeling and being forms.

3. Subjects should indicate only marginal confidence that words referring to Cognitive or Cognitive–Behavioral Conditions (i.e., in the Cognitive Conditions class) refer to emotions, regardless of the form being rated. We expected these words to be judged as somewhat emotional because they possess many of the features of emotions (indeed, all of the features except a focus on affect). Furthermore, because the possession of a focus on affect is a matter of degree, terms classified as Cognitive and Cognitive–Behavioral Conditions may be the least discriminable from clear cases of emotion terms.

4. Words that denote Physical and Bodily States should show little difference between the two forms, with subjects showing little or no confidence that they refer to emotions in either form. For example, we expected that neither *feeling hungry* nor *being hungry* would be rated as referring to emotions. These states possess few of the features of emotions in that they are not even good examples of mental conditions.

5. Additionally, a specific prediction pertaining only to verbs was that when rated as emotions, only the present (active) participles of noncausative verbs could be rated as emotions, not their past participles. For example, *admiring* (*someone*) might be rated as an emotion but *being admired* could not. Conversely, causative verbs could be rated as emotions in their past participle (passive) forms but not in their present participle (active) forms. Thus, *being frightened* might be rated as an emotion but *frightening* (*someone*) would not.

In summary, with respect to how emotional they seem in the contexts of feeling and being (i.e., how confident subjects are that the phrases refer to emotions), we predicted that the Affective Conditions would be high on both forms, that Cognitive Conditions would be moderate on both, that Physical and Bodily States would be low on both, and that External Conditions would be high on the feeling form but low on the being form. The ratings for verbs, however, should also depend on their causative–noncausative nature and, concomitantly, on whether they appear as present or past participles.

Method

In the study, 435 undergraduate psychology students served as subjects. They participated in groups of 20 to 30, with each person rating a subsample of the pool of affective terms. The study was designed so that the average rating for each item would be based on approximately 20 observations, although the actual range was from 18 to 80.

The stimuli (see Appendix A) were basically the same words used to construct the taxonomy of psychological conditions described in Ortony et al. (1987) except that, in some cases, data were collected on additional syntactic forms of the same word. The stimulus set included most of the words used in published reports of studies of emotion (e.g., Bush, 1973; Dahl & Stengel, 1978; Davitz, 1969; Russell, 1980).

Because the predictions involved the feel–be distinction and because adjectives fit readily into the feeling and being contexts, adjectives and verbs in adjectival (past participle) form were generally chosen as stimuli in preference to other possible syntactic forms when the meaning was judged to be comparable. The basic pool consisted of 357 adjectives, 101 verbs, and 20 nouns, but the noun forms of 53 of the adjectives and 54 of the verbs were also examined, for a total of 585 words. The sublist each subject considered included adjectives, nouns, and verbs, but no subject rated the same item in more than one syntactic form.

As already indicated, we sought to prevent subjects from reinterpreting items in the being context as though they had been presented in the feeling context. For this reason, the two contexts were always presented together, with the feeling form immediately preceding the being form, in the belief that having subjects make successive judgments about an item in its different contexts would deter them from reinterpreting the being form as feeling. For example, we thought that if subjects always made their judgment about *being abandoned* in conjunction with their judgment about *feeling abandoned,* they would be unlikely to confuse the two.

For adjectives, ratings were collected for words in the feeling context (e.g., *feeling confused*) and then in the being context (e.g., *being confused*). For verbs, in addition to these forms of the past participle (e.g., *feeling hated* and *being hated*), subjects rated the present participles (e.g., *hating* (*someone*)). Nouns, on the other hand, appeared first in the context of feeling (e.g., *feeling hate*) and then without a context (e.g., *hate*). Subjects were instructed to indicate their confidence that what was being referred to by each of the phrases in which the words occurred (e.g., *feeling alone*) was an emotion. Ratings were made on a 4-point scale anchored at one end by the words *certain it isn't* and at the other by the words *certain it is.* Intermediate scale points were labeled *suspect it isn't* and *suspect it is.*

Results

The main purpose of the study was to assess the soundness of our a priori or rationally derived classification system. This

involved first testing the discriminating power of the contrasting linguistic contexts of feeling and being. The a priori categories were subjected to a discriminant analysis to discover if there existed linear composites of the feeling and being ratings that significantly discriminate between categories. A second task was to determine whether or not any such linear combinations conformed to predictions.

Verbs

Before analyzing the data as a whole, we examined the ratings of the verbs alone. The main hypotheses of the study were framed in terms of a contrast between feeling *x* and being *x* where *x* is an adjective or past participle. In the case of verbs, however, the predictions for past (passive) participles only apply to those of causative verbs, such as *annoyed* and *frightened,* not to those of noncausatives, such as *admired* and *hated.* For noncausative verbs, we argued (see Hypothesis 5) that only present (active) participles (such as *admiring* or *hating*) could be rated as emotions, whereas this is impossible for the present participles of causative verbs (such as *annoying* and *frightening*).

The test of these hypotheses involved 101 verbs, 21 of which were noncausative. The results show that of the 22 verbs with the highest rating in the present participle form, 18 were noncausatives. Of these 18, 17 appeared originally in one of the affect–focal groups in the taxonomy (the affect–focal groups are perceived to contain the best examples of emotions). These 17 verbs are *admire, appreciate, desire, enjoy, grieve, hate, love, resent, adore, despise, detest, disapprove-of, dislike, forgive, like, loathe,* and *want.* Only 4 (of the first 22) were causative verbs (*cheer, inspire, terrify,* and *excite*). Consistent with expectations, the distribution of the ratings for present participles was virtually dichotomized, with the noncausatives dominating the upper tail. The clear-cut nature of this result suggests the correctness of our analysis of this as a logical, as opposed to a psychological, consideration.

Eight-Category Discriminant Analysis

The ratings on feeling and being (averaged across subjects) for the 564 words (the total pool minus the 21 noncausative verbs) were then submitted to a canonical discriminant analysis by using the CANDISC program in SAS (SAS Institute, 1985). The analysis was intended to determine how well the eight categories could be discriminated on the basis of subjects' ratings of the terms in their feeling and being forms. The eight categories were Affective States, Affective–Cognitive Conditions, Affective–Behavioral Conditions, Cognitive–Behavioral Conditions, Cognitive Conditions, Physical and Bodily States, Subjective Evaluations, and Objective Descriptions.[4]

The analysis yielded two significant discriminant functions. The adjusted canonical correlations were sizable for both discriminant functions: Rs = .75 and .59, $F(14, 1110) = 70.22$ and $F(6, 556) = 50.93$; $\omega_{multi}^2 = .56$ and .16. The ω_{multi}^2 statistic is based on Tatsuoka (1970). The ω_{multi}^2 value for the second discriminant function is the proportion of variance explained after the variance related to the first function is removed. The first function represents the confidence that terms refer to emotions. It was a composite of the being and feeling forms (standardized coefficients are 1.07 and 0.50, respectively) and predicted scores from this function correlated highly with both being and feeling (r = .98 and .91, respectively). The second dimension was the difference between the feeling and being forms (2.08 and −1.93, respectively). It represented what was unique to the feeling ratings after controlling for the being ratings (the part correlation with the second discriminant function was .98). The finding of two significant discriminant functions confirms that the manipulation of context did indeed induce different criteria, resulting in additional items being judged as emotions when presented in the feeling as opposed to the being context.

To determine how well these two variables discriminated the criterion categories, we computed the Mahalanobis distances among the centroids of the categories. The distances were significantly different for all but 3 of the 28 possible pairs of the eight criterion categories ($p < .001$, see Kshirsagar, 1972, p. 146). The three that were not discriminable were not at all surprising. The two categories constituting External Conditions, namely Objective Descriptions and Subjective Evaluations, were not distinguishable from one another. Also, Affective–Behavioral Conditions were not distinguishable from either pure Affective States or from Affective–Cognitive Conditions. No a priori predictions were made about the discriminability of these particular categories.

The canonical discriminant analysis found that the eight categories were distinguishable on the feel–be ratings. To examine the degree of overlap of the distributions and to see where in the feel–be space each word lies, we conducted a classificatory discriminant analysis (see Tatsuoka, 1970) by using the DISCRIM program in SAS (SAS Institute, 1985). This analysis indicated for each word the category whose centroid was nearest (in terms of Mahalanobis distance and assuming equal a priori probability of membership). The overlap in the distributions was as expected. Categories with shared properties tended to overlap. For example, of those Affective State words not associated with (i.e., nearest to) their own centroid, 78% were associated with one of the other Affective Conditions (Affective–Cognitions or Affective–Behaviors). Cognitive Condition words were next most likely (after their own centroid) to be associated with Affective–Cognitive Conditions, followed by Physical and Bodily States. Objective Descriptions and Subjective Evaluations were also found to be overlapped highly (over half of the words not associated with their own category were associated with the other).

Eight-Category Cluster Analysis

Another way to see the organization of the categories is to examine the distances between the centroids. Therefore, we

[4] The canonical discriminant analysis procedure assumes equal covariances in the groups to be discriminated. Yet this was not the case, because the correlation was notably larger for the Physical and Bodily States than for the others. Although the procedure is somewhat robust against this violation, the results should be considered with this fact in mind.

conducted a (complete-linked) hierarchical cluster analysis on the Mahalanobis distances among the centroids of the eight categories. Four clusters were clearly delineated (see Figure 2). One might be called the Physical and Bodily States cluster, as it consisted only of the Physical and Bodily State words and was isolated from the other clusters. Another might be referred to as the External Conditions cluster; it consisted of the Objective Descriptions and the Subjective Evaluations. This was the first cluster to form, consistent with the finding that the distance between their centroids was not significantly different. A Cognitive Conditions cluster was the next to form; it consisted of the Cognitive–Behavioral and the Cognitive categories. Finally, an Affective Conditions cluster emerged, consisting of the Affective, the Affective–Behavioral, and the Affective–Cognitive categories. These four clusters correspond clearly to the four main classes of conditions in the highlighted (boldfaced) boxes in Figure 1.

It is interesting to compare the clustering solution with the kinds of differences predicted. Because their ratings were expected to differ only in degree, the Affective Condition words (for which both feel and be ratings should be high) should be most similar to the Cognitive Condition words (for which both ratings should be moderate). They should be less similar to the External Condition words (high feel ratings and low be ratings) because of the expected discrepancy on the be ratings for the two classes. Finally, they should be least similar to the Physical and Bodily State words because they were expected to differ on both ratings. This pattern of similarity is supported by the tree structure shown in Figure 2. The Cognitive cluster is the closest to the Affective cluster and lies between it and the External cluster. The Body States cluster is distant from everything but most similar to the External cluster.

There is not much discriminability within the Affective, Cognitive, or External clusters. That is, in the Affective cluster as a whole, the Affective, Affective–Cognitive, and Affective–Behavioral categories all looked alike. The same was true within the Cognitive cluster for the Cognitive and the Cognitive–Behavioral categories and within the External cluster for the Objective Description and the Subjective Evaluation categories. None of the predictions concerned the discriminability of these categories. Therefore, subsequent analyses were directed at distinguishing the words as classified more broadly into these more inclusive but more distinct classes, namely the Affective, Cognitive, Bodily, and External Conditions classes.

Four-Class Discriminant Analysis

The same discriminant analyses that were conducted on the eight categories were performed on the four broader classes. The analysis yielded essentially the same two discriminant functions: Rs = .72 and .57, $F(6, 1118) = 138.79$ and $F(2, 560) = 131.50$, $\omega_{multi}^2 = .51$ and .16. Again, we analyzed the Mahalanobis distances among the centroids and found that all were significantly different from each other ($p < .001$). Figure 3 shows the extent to which the four major classes were discriminable by the limited information used in this analysis. The figure shows four isodensity contours, one for each class. Each contour represents a region within which 68% of the distribution falls (one standard deviation around the centroid, assuming bivariate normality).

As in the case of the eight categories, a classificatory discriminant analysis was also applied to the four-class data. The percentage of words associated with their own class was 76% for the Affective Condition words, 81% for the Body State words, 71% for the External Condition words, and 49% for the Cognitive Condition words. The patterns of association among the classes can be understood readily by referring to Appendix B, which shows the assignment of words to each of the four classes. Whereas Appendix B shows how terms from each of the four rationally derived classes were classified on the basis of the data, another way of examining the fit between the predicted and obtained classifications is to consider the correspondence between the rationally derived classification and the empirically derived classification as shown in Table 1. The main diagonal reveals that in all cases the majority of items were assigned to their a priori classes. It also shows that the most common misclassification was of noncognitive items into the Cognitive Conditions class. This is also evident, of course, from Figure 3, which shows the Cognitive Conditions class as having the most overlap with the others.

A simple test of the first four hypotheses we described in the introduction of this article can be provided by comparing the sums and differences of the means for the feeling and being ratings. Hypothesis 1 proposed that for emotion terms (which, we claim, are predominantly members of the Affective Conditions class) both feeling and being ratings should be high, so that there should be relatively little difference between the two. The mean ratings (represented on a 0–1 scale) of the items classified preexperimentally as Affective Conditions yielded a relatively large sum (1.36) and small difference (.18), which when compared with the values for the other classes, confirms this prediction. Hypothesis 2 predicted that the External Conditions class would have a large difference, with high feeling ratings and low being ratings. One would expect this to lead to a moderate sum. The sum of these ratings was in fact .96 and the difference was .37 (more than twice that for the Affective Conditions class). Hypothesis 3 maintained that the difference in ratings for items in the Cognitive Conditions class would be relatively small and that the sum would be only moderate, with neither very high feeling nor being ratings. This prediction was also confirmed, with a feeling rating of .60 and a being rating of .37, giving a sum of .97 and a difference of .24. Finally, for Body State terms, Hypothesis 4 proposed that ratings would be low on both forms, giving a small sum and a small difference. The sum for Body State words was .63 and the difference was .16. The reliability of these differences among the four classes is reflected, of course, in the results of the discriminant analysis just reported, which showed that each class was significantly different from all of the others.

Discussion

To distinguish emotions from nonemotions, Ortony et al. (1987) proposed a general structure for the affective lexicon.

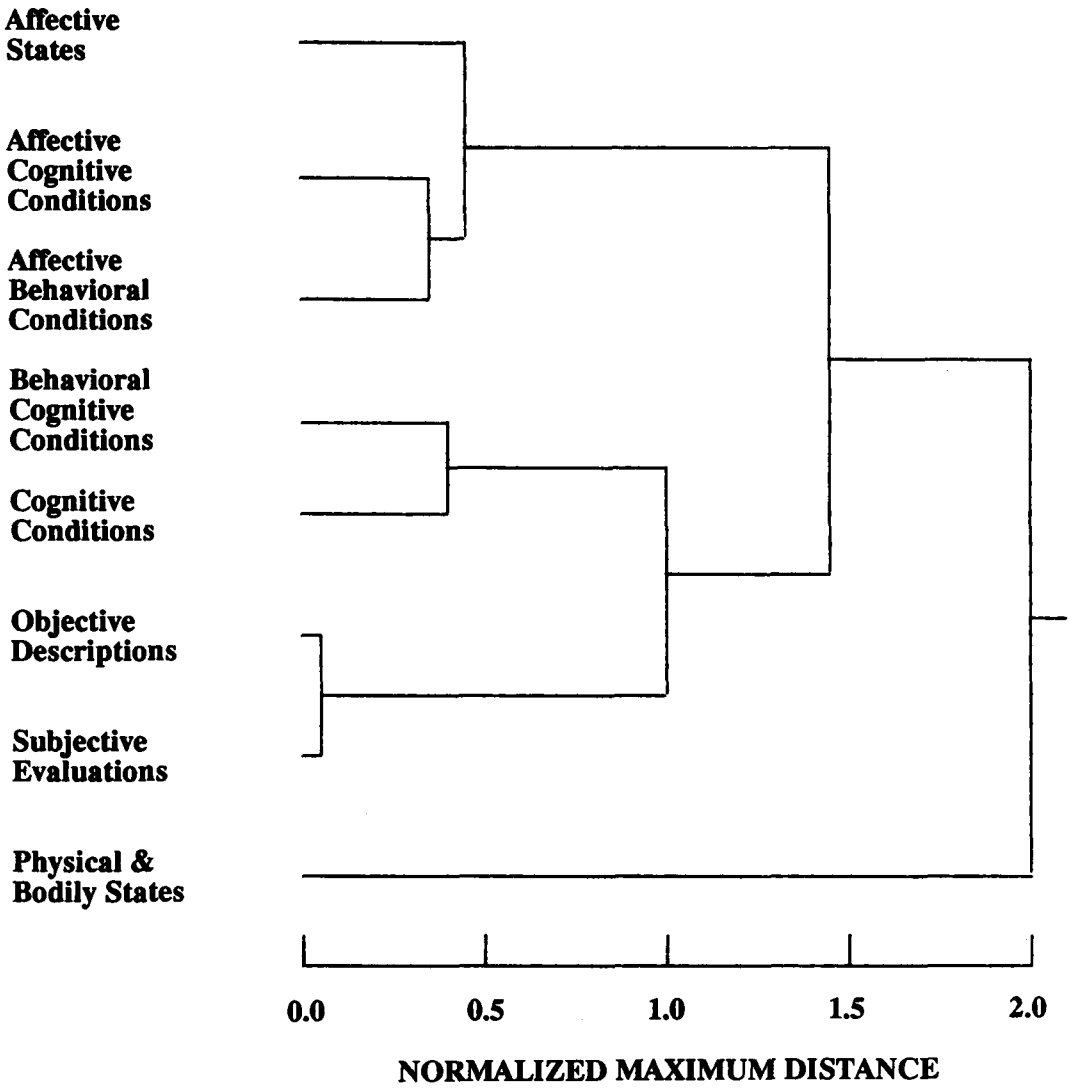

Figure 2. Complete link cluster analysis computed on the Mahalanobis distances between the centroids of eight categories of psychological conditions.

The structure was used to distinguish various kinds of psychological conditions. The study we have presented here attempted to assess the validity of that proposed structure. Our results showed that the four broad classes of psychological states and conditions distinguished in the proposed taxonomy were empirically discriminable. All predictions about the patterns of ratings that should characterize the broad classes of psychological conditions were confirmed. In addition, we found support for the discriminability of the eight more specific categories in the eight-category discriminant analysis. We had expected that the best examples of emotion terms would be those referring to conditions that are states, that are internal as opposed to external, that are mental as opposed to physical, and that have a significant focus on affect (i.e., the class of Affective Conditions). The data clearly support this position, suggesting that membership in the Affective Conditions class, by using some sort of empirical procedure such as the one we have described, constitutes a theoretically and empirically defensible criterion for a word to count as an emotion term.

The data show that the clearest cases of emotions were provided by terms referring to conditions we had classified in the Affective Conditions class and the clearest cases of nonemotions were those we had classified as Physical and Bodily States. As predicted, these had the highest and lowest emotion ratings, respectively. Neither differed much with respect to whether feeling or being forms were considered (Hypotheses 1 and 4). By contrast, terms in the External Conditions class were discriminable by being rated as nonemotions in the being form but as emotions in the feeling form (Hypothesis 2). We had predicted that terms in the Cognitive Conditions class would receive only

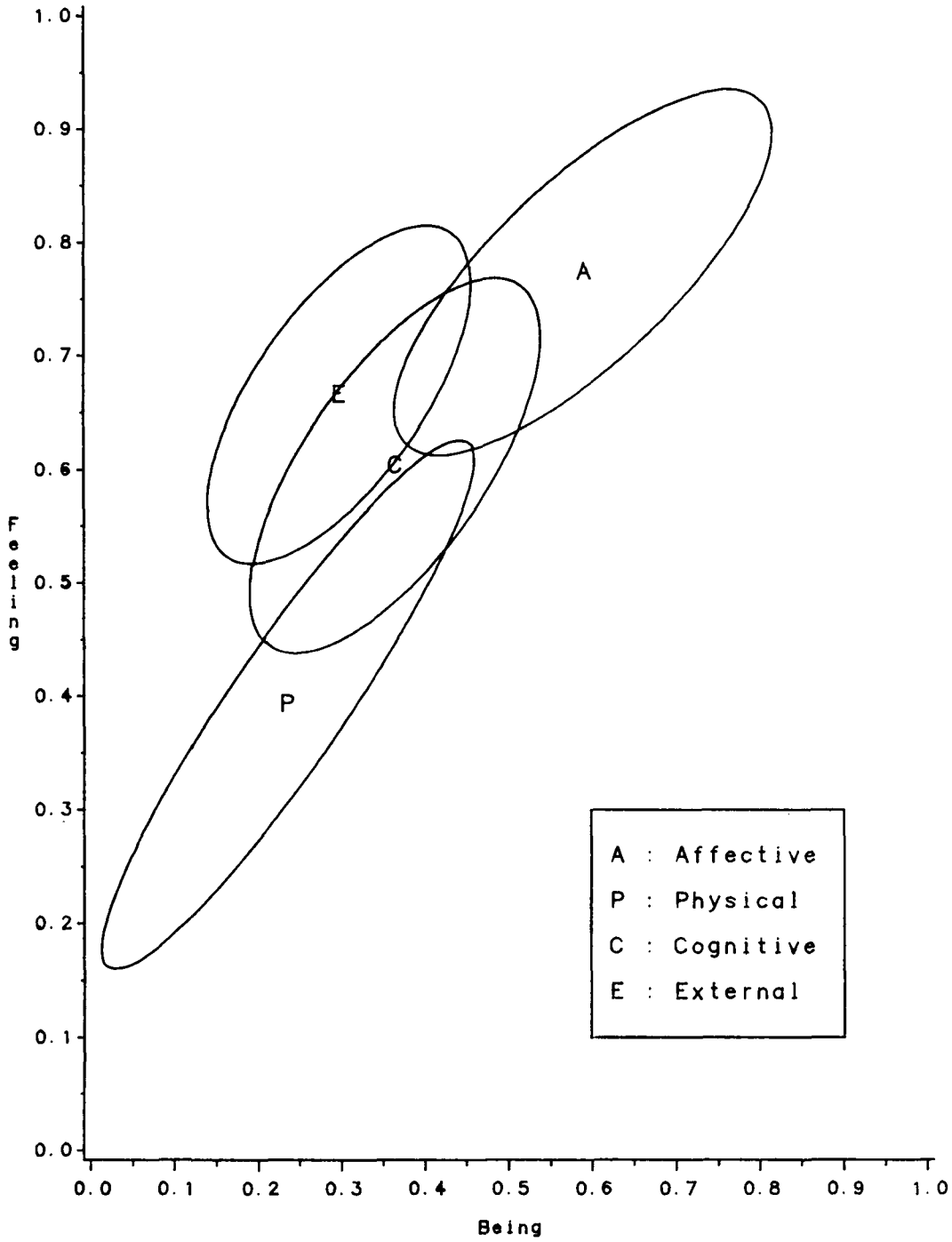

Figure 3. Isodensity contours representing 68% of the distribution (one standard deviation) for each of the four major classes.

moderate ratings in both forms and hence that they would show only small differences in their being and feeling forms (Hypothesis 3). This prediction was confirmed in that the Cognitive Conditions terms were significantly different from the others in the predicted direction. Finally, with regard to verbs, we showed that terms referring to emotions were much more likely to be found among the present participle (active) forms of noncausative verbs than of causative verbs (Hypothesis 5).

As we mentioned at the beginning of this article, a common approach to the study of emotion has been to use scaling meth-

Table 1
Frequencies (and Row Percentages) of "Correct" and "Incorrect" Classifications in the Four Classes

Rationally derived classification	Empirically derived classification				
	Affective	Cognitive	Body	External	Totals
Affective	234 (76%)	37 (12%)	6 (2%)	30 (10%)	307
Cognitive	19 (14%)	66 (49%)	23 (17%)	26 (19%)	134
Body	2 (5%)	5 (14%)	30 (81%)	0 (0%)	37
External	6 (7%)	17 (20%)	2 (2%)	61 (71%)	86
Totals	261	125	61	117	564

Note. "Correct" classifications are defined as those empirically derived classifications that match the rationally derived ones (diagonal). "Incorrect" classifications are those empirically derived classifications that do not match (off-diagonal).

ods to determine the structure of emotions. We criticized such attempts to investigate the structure of emotions by arguing that inadequate attention has been paid to the selection criteria for stimuli. It is interesting, therefore, to consider how the stimuli used in such studies would be classified by using our approach. To examine this issue, we examined the stimuli from two frequently cited and representative approaches of this kind (Plutchik, 1980; Russell, 1980) to determine to which classes they were assigned when using our empirically based classification procedure. Plutchik (1980) indicated that 40 words were used in a study he conducted. Of these 40 words, 34 were also used in our list, 11 of which failed to satisfy our empirical criterion for emotion words. Of the remaining six (*agreeable, distrustful, inquisitive, intolerant, puzzled,* and *receptive*), we are confident that none would have been classified as referring to affect-focal mental states. This means that granted this assumption, at best 17 of Plutchik's 40 words are questionable examples of emotion words. A more pessimistic interpretation would be that nearly half of the words do not refer to emotions at all. Similarly, of the 28 words used by Russell in a number of studies (e.g., Russell, 1980), 5 (i.e., nearly 20%) fell into one or other of our nonaffective categories. There is, of course, no presumption here that the hit rate of the feel-be criterion is perfect. One might easily make a case that some of the terms our empirically based procedure has classified as nonemotions do in fact have a significant focus on affect, in which case they ought to be classified as affective (i.e., emotional) states and vice versa. At the same time, few of the words empirically classified as nonemotions appear to be good examples of emotion terms.

Another kind of comparison between our results and those obtained in other studies is possible. As an example, we shall consider three of the stimuli used in the study reported by Plutchik (1980), in which the results were presented as evidence for a circular model of the similarity structure of emotions. Now, to the degree that such a structure really does represent the similarity structure of emotions, it follows that the closer two items are to one another, the more likely they should be to be judged similar on any dimension that genuinely characterizes their referents. It seems to us that the degree to which a word is judged as referring to an emotion is an example of one such dimension; consequently, items that are highly similar ought to receive comparable ratings on this dimension. Indeed, Plutchik's data show *fury* as being relatively close to *anger,* and our procedure classified both of these words as emotions. This is as it should be. However, Plutchik's data also show *defiant* as being close to *anger,* even closer in fact, than *fury* is to *anger.* We believe that in theory it ought to follow from this that these two items should be even more likely judged as highly similar on other relevant dimensions. However, they are classified quite differently both in our a priori classification and in our empirically based one. Specifically, whereas *anger* is classified as an emotion, *defiant* is not: It is classified as a Cognitive–Behavioral condition. But if subjects have their doubts about the status of *defiant* as an emotion, how can it be so near (i.e., similar) to *anger* in Plutchik's spatial representation? We would speculate that *fury* and *anger* really are similar in most respects except intensity and are so judged. However, *defiant* and *anger* are not. Accordingly, judgments about the similarity between them (or between *defiant* and any other "genuine" emotion) might be based on a different criterion: Perhaps they are judged similar because they tend to co-occur. If all the stimuli had been emotions, the likelihood of such criterion shifts in judgments would have been reduced significantly. This example is intended to underscore the main motivation for our insistence on attending to the question of the selection criteria for stimuli in emotion studies: There have to be some, and neither other people's stimuli nor dictionaries and thesauri constitute scientifically adequate criteria for selecting emotion stimuli, even though they may constitute the most usual ones.

One other interesting aspect of the data is that they suggest that people have a difficult time distinguishing between intense cognitive states and affective states. Thus, for example, *astonished, bewildered, flabbergasted,* and *amazed* were all classified preexperimentally as referring to Cognitive Conditions but subjects' ratings of them were more similar to those for Affective Conditions. Taking these data at face value suggests that otherwise nonemotional (e.g., Cognitive or Body) states may seem more emotional as they become more intense. Alternatively, confusions between intense cognitive states and emotions may arise simply because intense cognitive states are likely to cause emotions. For example, being bewildered is likely to lead to frustration and distress, even though the phrase itself refers merely to a cognitive state of confusion.

Within the emotion literature, we know of no prior attempt to answer the questions posed here, although Shields (1984) raises the same question about the status of terms used in emotion research. By using a sample of 60 candidate terms, she demonstrated that subjects judged many of them not to be emotions. However, she did not seek to impose some sort of structure on the affective lexicon as a whole, and she used a relatively small sample of words. Most research on emotion words has been concerned with characterizing the dimensional structure of emotions, often as the basis for proposing a theory of emotion. As discussed previously, neither of these goals characterizes our research. Rather, we have sought to differentiate the major kinds of psychological states and conditions to which

terms in the affective lexicon refer. These conditions include not only emotional states but also cognitive states, bodily states, and so forth. Nevertheless, there is some overlap in the categories we have used and those proposed for other purposes by, for example, Allport and Odbert (1936) and Norman (1967). These authors were primarily interested in separating terms referring to personality traits from other person-descriptive terms rather than in separating emotion from nonemotion terms. It is of interest, however, to note that they also found it necessary to separate Subjective Evaluations such as *wonderful, contemptible,* and *weird* from terms with more descriptive content. In addition, they also worried about differentiating states from nonstates, primarily because they were interested in one kind of nonstate, that is, traits (whereas we were interested in one kind of state, i.e., emotions). In our previously proposed classification (Ortony et al., 1987), terms were also coded with respect to their stateness. When the distribution of states and nonstates was examined, it appeared that there were no psychological states in either the External Conditions or the Cognitive–Behavioral Conditions and that there were few if any nonstates in the Affective Conditions. Hence, as in Norman's (1967) system, our system separated states from nonstates.

Allen and Potkay (1981), however, have been critical of attempts to distinguish states from traits. They focus in part on the difficulty of distinguishing traits from states when a single term (e.g., *happy* or *proud*) can refer to either. They see evidence in terms such as *happy* and *proud* that states and traits are fuzzy sets that resist clear distinction. In our view, the difficulty of cataloging terms such as *happy* and *proud* is not that the state and trait categories have fuzzy boundaries but simply that there are two distinct meanings represented by each of these words. In ordinary discourse, for example, one must make clear whether one is talking about someone being happy in the moment (the state reading) or happy in general (the trait reading). This need to "disambiguate" the state from the trait meaning, however, is not evidence for the fuzziness of the state–trait boundary. It may or may not turn out to be useful to think of the state–trait boundary as fuzzy, but the fact that people sometimes use the same terms in their assertions about momentary states as they do in their assertions about enduring traits is not evidence for that position.

Our results show that the two sets of ratings were quite informative. However, inspection of the cases of words associated with a centroid other than their own (predicted one) suggests various possible difficulties with this approach. One such problem is the tendency discussed earlier for ordinary cognitive states to seem more emotional as they become more intense. Another complication can be seen in the case of such cognitive terms as *conceited, serious,* and *foolish.* Subjects were instructed always to consider the more emotional reading when terms could be interpreted in more than one way, but they apparently did not always do so. For example, these terms were all associated with the External Conditions centroid. We had expected that these terms would show the pattern for Cognitive Conditions by receiving moderate ratings in both forms. However, whereas subjects rated them as emotions in the feeling forms, these words received low ratings in their being forms and, consequently exhibited the External Conditions pattern. This may have been a result of subjects interpreting constructions such as *being serious* as ways of behaving rather than as the psychological states of mind that we had intended.

Finally, many of the cases in which a word is associated with another category result from the simple fact that the boundaries of these categories are such that there are necessarily many borderline cases. Thus, for example, such words as *determined, disillusioned,* and *lively* were classified preexperimentally as Cognitive Conditions but were associated in the data with the Affective Conditions class. Each of these terms could be said to have some affective focus; their classification ultimately rests on the degree to which the affective aspect is seen as focal in the meaning of the word, a decision that in the end remains a judgment call.

Conclusion

The belief underlying this project is that developing an adequate theory requires that the set of phenomena to be explained be specified clearly. In the area of emotion this is rarely attempted. Accordingly, our study is part of an attempt to develop criteria for isolating terms that refer to emotions from the rest of the affective lexicon. To do this, we first carefully analyzed the referents of a large pool of candidate terms. The outcome of that endeavor was a taxonomy of Affective, Cognitive, Bodily, and External conditions. We then assessed the results of this project by attempting to classify the same terms into the same taxonomy on the basis of empirical data.

In the past, scaling studies have been a common but not always satisfactory approach to the problem of identifying emotion terms. The difficulty with simply asking subjects to rate whether a particular term is a good example of an emotion is that the linguistic context in which subjects implicitly consider the terms is usually uncontrolled and unknown. We suspect that poor examples may find their way into published lists of emotion terms because they are considered, at least implicitly, in the context of feeling rather than being. We noted that many distinctly poor examples of emotions seem quite emotional when considered in the context of feeling something as opposed to being something. Therefore, in the study reported here, subjects were asked to rate each word in both contexts. We expected emotions to appear as equally good examples in both forms and nonemotions to be rated as poor examples in one or both forms. Although it would have been too optimistic to expect that these two judgments by themselves would reproduce the richer, eight-category taxonomy, we did expect the ratings to distinguish between the four broad classes that we believe constitute the underlying referential structure of the affective lexicon. Our results showed that the pattern of ratings in the contrasting linguistic contexts did a remarkably good job. However, we should emphasize that although we have used feeling and being ratings as a convenient way of testing our proposals concerning the underlying structure of the affective lexicon, we do not for a moment believe that the feel–be distinction itself plays any role in determining that structure. The fact that different kinds of affective conditions can be distinguished in a

feel–be space does not establish that the corresponding dimensions determine the psychological structure of the domain. Indeed, this was part of our criticism of traditional scaling approaches to emotions. Rather, we believe that the psychological foundations of the affective lexicon are components such as internal–external, mental–nonmental, and affect–behavior–cognition, in terms of which the different types of affective conditions are distinguished.

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Appendix A

Stimulus Words From the Affective Lexicon

abandoned
abused
accept*
admiration
admire*
adore*
adventurous
affection
affectionate
afraid
aggravated
aggressive
aggrieved
agitated
agitation
agony
alarm
alarmed
alert
alertness
alone
aloof
amazed
amused
amusement
anger
angry
anguish
anguished
annoyed
antagonistic
anxiety
anxious
apathetic
apathy
apologetic
appreciate*
appreciation
apprehensive
approve-of*
argumentative
arousal
aroused
arrogant
ashamed
astonished
at-ease
at-peace
attracted
attraction
attractive
aversion
aware
awe
awestruck
awful
bad
baffled
beaten
beloved
benevolent
bereft
bewildered
bitchy
bitter
blue
bold
bored
boredom
brave
breathless
brokenhearted
burdened
calm
carefree
careful
careless
cautious
certain
charitable
charmed
cheated
cheered
cheerful
cheerfulness
cheerless
comfortable (physically)
comfortable (psychologically)
compassion
compassionate
competent
competitive
complacent
conceit
conceited
concern
concerned
confidence
confident
confused
confusion
conscientious
consolation
consoled
contempt
contemptible
contemptuous
contented
contentment
contrite
convinced
cooperative
courage
courageous
cowardly
crabby
crazy
critical
cruel
cruelty
crushed
curiousity
curious
cynical
daring
dazed
defeated
defensive
defiant
deflated
degraded
dejected
dejection
delight
delighted
dependent (physically)
dependent (psychologically)
depressed
depression
deprived
desire
desire*
despair
desperate
despicable
despise*
despondent
determination
determined
detest*
devoted
devotion
disagreeable
disappointed
disappointment
disapprove-of*
discontented
discouraged
disenchanted
disgraced
disgust
disgusted
disheartened
disillusioned
dislike*
dismay
dismayed
displeased
dissatisfied
distress
distressed
disturbed
dizzy
dominated
doubt
doubtful
downhearted
dread
dreadful
dreary
droopy
drowsy
dull
eager
earnest
ecstasy
ecstatic
elated
elation
embarrassed
embarrassment
emotional
empathy
encouraged
encouragement
energetic
enjoy*
enjoyment
enthusiasm
enthusiastic
envious
envy
euphoria
euphoric
exasperated
exasperation
excited
excitement
exhausted
exhaustion
expectant
faint
faithful
fascinated
fascination
fatigue
fatigued
fear
fearful
fed-up
feverish
fine
flabbergasted
fond
fondness
foolish
forgive*
friendliness
friendly
fright
frightened
frustrated
frustration
fulfilled
funny
furious
fury
gaiety
generous
gentle
glad
gleeful
gloomy
glorious
glum
good
grateful
gratified
gratitude
greed
greedy
grief

Appendix A (*continued*)

grief-stricken
grieve*
grouchy
guilt
guiltless
guilty
happiness
happy
hate
hate*
hateful
hazy
heart-stricken
heartbroken
heartened
heartsick
heartsore
heavy-hearted
helpless
hesitant
high
homesick
hope
hopeful
hopeless
hopelessness
horrible
horrified
horror
hostile
hostility
humble
humiliated
humiliation
hung-up
hunger
hungry
hurt
ignored
ill
ill-at-ease
impatience
impatient
impotent
impressed
in-love
inadequate
incensed
incredulous
indifference
indifferent
indignant
ineffective
infatuated
infatuation
inferior
inhibited
insecure
inspiration
inspired
insulted
interest
interested
intimate
intimidated
irate
irked
irritable
irritated
irritation
isolated
itchy
jealous
jealousy
jittery
joy
joyful
joyless
joyous
jubilant
kind
lazy
lighthearted
like*
lively
livid
loathe*
loneliness
lonely
lonesome
longing
lost (psychologically)
lousy
lovable
love
love*
lovesick
loving
low
lucky
lust
mad
malice
malicious
marvelous
meek
melancholy
merry
mischievous
miserable
misery
mistreated
mixed-up
modest
modesty
mortified
mournful
moved
nauseous
neglected
nervous
nervousness
nonchalant
nostalgia
nostalgic
numb
obstinate
odd
offended
on-edge
oppressed
optimism
optimistic
outrage
outraged
overconfident
overjoyed
overwhelmed
pain
pained
panic
passion
passionate
pathetic
patient
peaceful
peculiar
peeved
perplexed
persecuted
pessimism
pessimistic
petrified
petty
phony
pining
pissed-off
pitiful
pity
placid
playful
pleasant
pleased
pleasure
powerful
prejudiced
pride
protective
proud
purposeful
quiet
rage
reassurance
reassured
rebellious
reckless
refreshed
regret
relaxed (physically)
relaxed (psychologically)
relief
relieved
remorse
repentant
resent*
resentful
resentment
resigned
respect
respect*
rested
restless
reverence
revived
ridiculous
rigid
rotten
sad
sadness
safe
sarcastic
satisfaction
satisfied
scared
scorn
scornful
secure
self-centered
self-confident
self-conscious
self-destructive
self-pity
self-satisfaction
self-satisfied
selfish
sensitive (considerate)
sensitive (easily hurt)
sentimental
serene
serenity
serious
sexy
shaken
shame
shock
shocked
shook-up
shy
sick
sick-at-heart
sickened
silly
sincere
skeptical
sleepiness
sleepy
slighted
sluggish
smug
solemn
solemnity
soothed
sore (psychologically)
sorrow
sorry
spiteful
startled
strange
strong (psychologically)
stubborn
stunned (psychologically)
stupid
submissive
successful
suffering
superior
sure
surprise
surprised
suspense
suspicion
suspicious
sympathetic
sympathy
tender
tense
terrible
terrific

Appendix A (*continued*)

terrified	trust*	unpleasant	vulnerable
terror	trustworthy	unprotected	want*
thankful	unattractive	untroubled	warm
thirst	uncared-for	untrustworthy	warmhearted
thirsty	uncertain	unworried	weak (psychologically)
threatened	uncomfortable (physically)	upset	weary
thrilled	uncomfortable (psychologically)	uptight	weird
thwarted	uncooperative	useless	welcome
timid	uneasy	vain	well
tingly	unfaithful	vanity	willful
tired	unfriendly	vengeful	woe-stricken
tolerant	unfulfilled	vigor	wonder
tormented	unhappy	vigorous	wonderful
touched (psychologically)	unimportant	violent	worried
triumphant	uninterested	virtue	worry
troubled	unlovable	virtuous	yearning
trust			

Note. The 21 items marked with an asterisk are the noncausative verbs.

Appendix B

Comparison of Empirically to Rationally Derived Classifications of Affective Words

The 564 words (i.e., the 585 words indicated in Appendix A less the 21 noncausative verbs marked there with an asterisk, which were analyzed separately) are listed first according to the four (preexperimental) rationally derived classes. Within each class the words are further sorted under the class for which the Mahalanobis distance from the word to the centroid of that class was smallest. In other words, the first major group lists all those items that were preexperimentally classified as Affective Conditions and shows the class to which each was assigned on the basis of the data. Note that the Affective Conditions class combines the Affective, Affective–Behavioral, and Affective–Cognitive categories, that the Cognitive Conditions class combines the Cognitive and Cognitive–Behavioral categories, and that the External Conditions class combines the Subjective Evaluation and Objective Description categories.

Affective Conditions

The following 307 words were classified preexperimentally as Affective Conditions. Their average ratings on feeling and being were .774 and .590, respectively.

The 234 words (76.2%) empirically classified as Affective Conditions (.809, .648). Admiration, affection, affectionate, afraid, aggravated, aggrieved, agitated, agitation, agony, alarm, alarmed, amused, anger, angry, anguish, anguished, annoyed, anxiety, anxious, apathy, appreciation, ashamed, at-peace, attracted, awe, awestruck, bitchy, bitter, blue, brokenhearted, cheered, cheerful, cheerfulness, comfortable (psychologically), compassion, compassionate, concern, concerned, consoled, contempt, contemptuous, contented, contentment, crushed, dejection, delight, delighted, depressed, depression, desire, despair, desperate, despondent, disappointed, disappointment, discontented, discouraged, disenchanted, disgust, disgusted, disheartened, dismay, dismayed, displeased, dissatisfied, distress, distressed, disturbed, downhearted, dread, ecstasy, ecstatic, elated, elation, embarrassed, embarrassment, emotional, empathy, enjoyment, enthusiasm, envious, envy, euphoria, euphoric, exasperated, exasperation, excited, excitement, fear, fed-up, fond, fondness, fright, frightened, frustrated, frustration, fulfilled, furious, fury, gaiety, gleeful, gloomy, glum, grateful, gratified, grief-stricken, grief, grouchy, guilt, happiness, happy, hate, heart-stricken, heartbroken, heartened, heartsick, homesick, hope, hopelessness, horrified, horror, hostile, hostility, humiliation, hurt, ill-at-ease, impatient, in-love, incensed, infatuated, infatuation, intimate, intimidated, irate, irked, irritated, irritation, jealous, jealousy, joy, joyful, joyous, jubilant, kind, lighthearted, livid, loneliness, lonely, lonesome, longing, love, lovesick, loving, low, lust, mad, malice, melancholy, merry, miserable, misery, mortified, mournful, moved, nervous, nervousness, optimism, optimistic, outrage, outraged, overjoyed, overwhelmed, panic, passion, passionate, peeved, petrified, pining, pissed-off, pity, placid, pleased, pleasure, pride, proud, rage, regret, relaxed (psychologically), relief, relieved, remorse, resentful, resentment, sad, sadness, satisfied, scared, scorn, self-conscious, self-pity, self-satisfaction, self-satisfied, sensitive (easily hurt), sentimental, shame, shock, shocked, sick-at-heart, solemnity, sorrow, sorry, spiteful, suffering, suspense, sympathetic, sympathy, tender, terrified, terror, threatened, thrilled, tormented, troubled, uncomfortable (psychologically), uneasy, unhappy, upset, uptight, vengeful, warmhearted, woe-stricken, worried, worry, and yearning.

The 37 words (12.0%) empirically classified as Cognitive Conditions (.634, .410). Amusement, apathetic, apologetic, apprehensive, at-ease, attraction, aversion, burdened, carefree, charmed, cheerless, contrite, cowardly, deflated, devoted, eager, encouraged, enthusiastic, gratitude, humble, indignant, nostalgic, pained, pessimistic, repentant, reverence, satisfaction, scornful, serenity, shook-up, shy, sickened, smug, soothed, sore (psychologically), thankful, and wonder.

The 6 words (2.0%) empirically classified as Physical and Bodily States (.481, .364). Devotion, encouragement, impatience, nostalgia, pessimism, and respect.

The 30 words (9.8%) empirically classified as External Conditions (.737, .402). Benevolent, calm, consolation, crabby, dejected, fearful, glad, heartsore, heavy-hearted, high, humiliated, insecure, irritable, joyless, malicious, offended, on-edge, peaceful, reassurance, reassured,

secure, serene, shaken, solemn, tense, timid, touched (psychologically), triumphant, unfulfilled, and warm.

Cognitive Conditions

The following 134 words were classified preexperimentally as Cognitive Conditions. Their average ratings on feeling and being were .603 and .365, respectively.

The 19 words (14.2%) empirically classified as Affective Conditions (.745, .550). Amazed, argumentative, astonished, bewildered, bored, courage, dependent (psychologically), determination, disillusioned, flabbergasted, friendliness, hopeful, lively, mixed-up, sensitive (considerate), surprise, surprised, suspicious, and violent.

The 66 words (49.3%) empirically classified as Cognitive Conditions (.587, .359). Adventurous, aloof, baffled, cautious, certain, charitable, complacent, confidence, confident, confused, confusion, conscientious, critical, cruelty, curiosity, cynical, defensive, defiant, determined, doubtful, energetic, expectant, faithful, fascinated, fascination, generous, greed, greedy, hesitant, hung-up, impressed, incredulous, indifferent, inspiration, inspired, interested, lazy, mischievous, modest, nonchalant, obstinate, overconfident, patient, perplexed, petty, playful, purposeful, reckless, resigned, rigid, self-confident, sincere, startled, stubborn, stunned (psychologically), submissive, sure, trust, uncertain, uncooperative, unfriendly, vanity, vigor, vigorous, virtuous, and willful.

The 23 words (17.2%) empirically classified as Physical and Bodily States (.450, .295). Alert, alertness, arrogant, aware, boredom, careful, conceit, convinced, cooperative, curious, doubt, earnest, hazy, indifference, interest, modesty, prejudiced, restless, self-centered, skeptical, suspicion, tolerant, and virtue.

The 26 words (19.4%) empirically classified as External Conditions (.675, .304). Aggressive, antagonistic, bold, brave, careless, competitive, conceited, courageous, crazy, cruel, daring, foolish, friendly, funny, gentle, inhibited, lost (psychologically), meek, protective, rebellious, sarcastic, selfish, serious, silly, stupid, and vain.

Physical and Bodily States

The following 37 words were classified preexperimentally as Physical and Bodily Conditions. Their average ratings on feeling and being were .393 and .236, respectively.

The 2 words (5.4%) empirically classified as Affective Conditions (.736, .592). Arousal, and aroused.

The 5 words (13.5%) empirically classified as Cognitive Conditions (.584, .405). Jittery, refreshed, relaxed (physically), revived, and well.

The 30 words (81.1%) empirically classified as Physical and Bodily States (.338, .184). Breathless, comfortable (physically), dazed, dizzy, droopy, drowsy, exhausted, exhaustion, faint, fatigue, fatigued, feverish, hunger, hungry, ill, itchy, nauseous, numb, pain, rested, sick, sleepiness, sleepy, sluggish, thirst, thirsty, tingly, tired, uncomfortable (physically), and weary.

No words (0.0%) were empirically classified as External Conditions.

External Conditions

The following 86 words were classified preexperimentally as Objective Descriptions. Their average ratings on feeling and being were .666 and .298, respectively.

The 6 words (7.0%) empirically classified as Affective Conditions (.793, .529). Disgraced, hateful, hopeless, isolated, lovable, and slighted.

The 17 words (19.8%) empirically classified as Cognitive Conditions (.580, .304). Beloved, competent, contemptible, dependent (physically), disagreeable, dominated, dreadful, dreary, dull, peculiar, powerful, safe, trustworthy, untroubled, unworried, weak (psychologically), and welcome.

The 2 words (2.3%) empirically classified as Physical and Bodily States (.455, .220). Phony, and uninterested.

The 61 words (70.9%) empirically classified as External Conditions (.684, .276). Abandoned, abused, alone, attractive, awful, bad, beaten, bereft, cheated, defeated, degraded, deprived, despicable, fine, glorious, good, guiltless, guilty, helpless, horrible, ignored, impotent, inadequate, ineffective, inferior, insulted, lousy, lucky, marvelous, mistreated, neglected, odd, oppressed, pathetic, persecuted, pitiful, pleasant, quiet, ridiculous, rotten, self-destructive, sexy, strange, strong (psychologically), successful, superior, terrible, terrific, thwarted, unattractive, uncared-for, unfaithful, unimportant, unlovable, unpleasant, unprotected, untrustworthy, useless, vulnerable, weird, and wonderful.

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