

example, Russell (1983) reports that when subjects in different cultures are asked to rate the similarity of emotional states, the variance is largely accounted for by dimensions reflecting pleasure and activity, with a possible third dimension reflecting intensity.

If our names for the various emotions primarily refer to internal states, we might expect a high degree of correspondence between studies of the external manifestation of the states and studies of internal feeling. However, there is a clear lack of correspondence between studies of facial expression and studies of subjective feeling. For example, there are clear differences between the facial expressions for anger, fear, and disgust, and these expressions have been shown to be reliably distinguished in many different cultures. However, studies of affective feeling fail to distinguish these emotions. That is, when subjects introspect on how anger, fear, and disgust feel, they consistently report (again from many cultures) that all these emotions are unpleasant, active, and strong. Conversely, investigators working with facial expression have not been able to reliably distinguish between the expressions for love and happiness, in spite of the fact that Plutchik (1980) reports data that show that "affectionate" and "happy" are almost 90° apart on a circular scaling of emotion feelings. These discrepancies suggest that our names for emotions may refer to something besides facial expressions, physiological states, subjective feelings, or other manifestations of internal states.

It has been suggested that emotions may be regarded as *social relationships* (cf. Averill, 1983; de Rivera, 1977, 1984). From such a perspective, emotional behavior is always relative to an *other* in the manner suggested by Tolman (1923). Anger, for example, is not best conceived as a particular facial expression or as any particular set of instrument behaviors, physiological responses, or internal sensations, but as a particular social relationship between the angry person and a provocateur. The person who is angry *wants to remove* the challenge posed by the other's behavior. Of course, this anger is embodied — there are physiological responses, facial expression, and muscular adjustment — but this bodily behavior is only one aspect of the relationship with the other. Hence, the *feeling* of anger is not composed solely of bodily sensations but includes our awareness of the entire pattern of behavior. In fact, anger, or any other emotion, may be *felt* (and not simply recognized) by others, and not simply by the person who is angry. That is, *I may feel the "heat" of your anger.*

If such a position has merit, it should be possible to demonstrate that the "feel" of different emotions may be related to different relationships between the person and the other. And it should be possible to show that the names of different emotions are not primarily used to refer to particular facial expressions or to particular combinations of pleasant or unpleasant, active or passive feelings, but to different ways in which the person relates to other.

Emotions as Social Relationships¹

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While emotions are usually treated as internal states, it is possible to view them as social relationships. From this perspective, the different emotions are not primarily understood in terms of facial expression, physiological pattern, hedonic tone, or level of arousal, but as different transformations of the relationship between person and other. To demonstrate the value of this approach, judgments of the similarity between different emotions were submitted to multidimensional scaling. It is shown that the resulting dimensions describe different aspects of the relation between self and other. These dimensions provide us with a "taxonomy" of emotions that makes some important distinctions between closely related emotions and leads to some interesting predictions about personality differences.

Most theories have treated emotions as if they were internal states. Hence, investigators who have attempted to describe different emotions have either described "expressions" of emotion, such as patterns of facial expression or autonomic response (Izard, 1971; Ekman, 1983), or asked subjects to report their subjective feelings of "emotional states." In the former case, studies yield descriptions of a small set of discrete facial or physiological patterns that are distinct and universally recognizable but do not seem to be particularly related to one another. In the latter case, studies continue to emphasize the affective dimensions articulated by Osgood, May, and Milton (1975). For

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In fact, the "structural theory" of the emotions (de Rivera, 1977) asserts that the various emotions that humans have named may be related to each other in terms of the structures of at least four interpersonal "choices." These may be specified as follows:

1. The "it-me" choice of whether to direct the emotion toward an other or toward the self (e.g., hate or depression).

2. The "positive-negative" choice. In the case of other-directed ("it") emotions, a positive choice is experience as an attraction to, a negative choice as a repulsion from, an other. In the case of self-directed ("me") emotions, a positive choice is reflected in the person feeling attractive, while a negative choice is reflected in the person feeling repellant.

3. The "extension-contraction" choice. In the case of positive "it" emotions, extension is reflected in giving to the other (e.g., tenderness), while contraction is reflected in wanting to get from the other (e.g., longing). For negative "it" emotions, extension is reflected in pushing the other away, while contraction is expressed in pulling back from the other. In the case of "me" emotions, it is postulated that there is an implicit other who extends toward, or contracts from, the self. Thus, each "me" emotion mirrors the structures of a corresponding "it" emotion. For example, the "flattened" feeling of depression reflects the self being pushed away by the hate of an implicit other.

4. The choice of "psychological space." All of the relations described above involve movement along one of three different dimensions of psychological space. The first of these dimensions involves whether or not the person and other belong to one another or form a unit together, the second involves social recognition and comparison, and the third involves belonging, in the sense of existentialists such as Marcel (1960). In the language of William James (1890/1950), they involve the material, the social, and the spiritual self, respectively. In the English language, quite different emotion names are used for the same kind of movement occurring along the different dimensions. For example, longing, admiration and wonder are all "it," positive, contraction emotions but refer, respectively, to wanting to belong with, wanting to be like, and wanting to comprehend the being of, the other. In the study reported below, we will consider only the first two of these dimensions.

It should be noted that all of the above factors are orthogonal and combine to describe how the person is relating to the other. For example, the person may be attracted to an other whom he or she wants to "get" to be like (in which case the choices are "it," +, contraction, recognition). The theory presumes the different emotions are different relationships between the person and the other. Admiration is being attracted to an other whom one wants to be like. If this is so, it seems reasonable to suppose that most of our names for the emotions will refer to one of the 24 possible different combinations of these interpersonal factors. Sixteen of these combinations

are shown in Figure 1, where each combination has been given the name of a different emotion. (The eight omitted combinations involve the dimension of being, which is not included in this study.)

The organization of emotions in Figure 1 specifies exactly how the dynamics of each emotion are theoretically related to the dynamics of all the other emotions in the matrix. For example, love is postulated to transform the relationship between self and other so that the value of the other is revealed to the self. Thus, the self extends toward the other, wanting to give to him or her. This is quite similar to desire, except that in the latter case the other appears valuable for the self who wants the other to belong to him or her. Anger is postulated to be similar to love in that the value of the other is seen as absolute rather than as relative to the needs of the self. That is, in Heider's (1958) terminology, an ought is involved and not simply a preference or desire. However, the other is seen as "bad" rather than as good, so that the other is disowned rather than affirmed. Security is postulated to involve the same

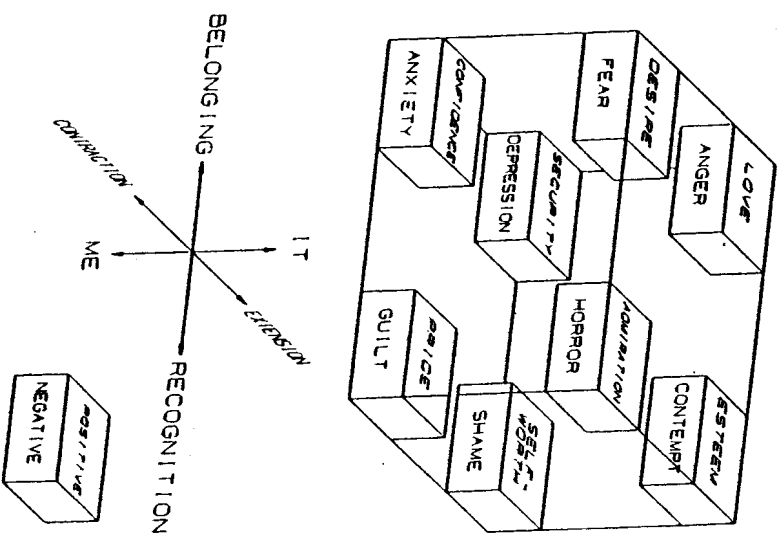


Fig. 1. The theoretical organization of 16 emotions as defined by a matrix of four interpersonal factors. Adapted from de Rivera (1977).

factors as love, but to depend on the other's affirmation of the value of the self.

The dynamics of other emotions are seen as more dissimilar to love. Fear, for example, differs from love on two factors and should be in the same relation to love as horror is to esteem. Guilt is completely dissimilar, differing from love on all four factors. While this theoretical matrix attempts to specify dynamic similarities—that is, how emotions *actually* transform the relationship between person and other—such similarities may well affect our *perception* of how emotions are similar and dissimilar.

One might question whether the emotion terms in Figure 1 really may be used to refer to the four interpersonal choices. Certainly, when persons reflect upon emotional states they are much more apt to notice the degree of pleasantness, activation, and strength of the feeling than to notice the various choices specified in the matrix. And none of the many different classifications of emotions that have been proposed over the years distinguishes between it and me, or extension and contraction, emotions. Yet it may easily be demonstrated that once the factors are explicated, most subjects intuitively grasp the distinctions, which seem to have been implicitly present all along. Thus, de Rivera (1977) established that once the it-me distinction was explicated, subjects who were given a list of 137 emotion names agreed as to which names referred to "it" and which to "me" emotions. (Agreement beyond the .05 level of significance was reached for over two-thirds of the words.) And Dahl and Stengel (1978) have shown that two-thirds of a sample of 371 English emotion names can be unambiguously referred to *all* of the first three choices specified above. Thus, we can systematically and empirically define at least two-thirds of our emotion terms in these interpersonal terms.

A sample of these "definitions" of 96 emotion terms is shown in Table I, where the eight clusters of emotion names are empirically generated by subjects' stating whether the names are used for other-directed versus self-directed, positive versus negative, and extension versus contraction emotions. These 96 empirical placements include all of the theoretical placements shown in Figure 1. It may be observed that the emotions referring to each of the eight different clusters seem obviously more related to one another than to the other emotions. Such similarity may be contrasted to what occurs when we group emotions according to pleasantness, activity, and strength. In the latter case, emotions as dissimilar as hate and terror, or love and enthusiasm, will be grouped together.

It is important to notice how the feeling tone of the "me" emotions is systematically related to the "it" emotions. Me emotions (e.g., calm) that involve extension (e.g., fond) have a passive quality, while those that mirror contraction have an active quality. Thus, if the implicit other gives to us, we feel passively centered, while if he or she is getting from us, we feel ac-

Table I. Emotion Names as Defined by the Coordination of Three Interpersonal Factors

	Other-directed (it) emotions			Corresponding self-directed (me) emotions		
Positive						
Extension	(Giving to other)			(Given to by other)		
	accepting	fond	respect	calm	fulfilled	secure
	affectionate	friendly	reverent	comfortable	glad	serene
	compassionate	grateful	sympathetic	contented	peaceful	self-satisfied
	esteem	loving	tender	dignified	relieved	self-worth ^b
Contraction	(Attracted to other)			(Self-attractive to other)		
	amazed	awe	longing ^c	alert	eager	enthusiastic
	amused	desire ^c	surprised	confident ^a	ecstatic	joyful ^a
	admiration ^c	expectant	tempted	delighted ^a	elated	powerful
	astonished	fascinated	wonder	determined	energetic	pride
Negative						
Extension	(Pushing other away)			(Pushed away by other)		
	angry	dislike	irritated	apathetic	despair	sad
	annoyed	disrespect	rage	ashamed	discouraged	shy
	contemptuous	furious	rejecting	bored	helpless	unhappy
	cynical	hate	resentful	depressed	lonely	worthless
Contraction	(Pulling back from other)			(Pulled back from by other)		
	alarmed ^b	dread	shocked	agitated	frustrated	panicky
	afraid	fearful	suspicious ^c	anguished	guilty ^a	tense
	apprehensive ^c	horrified	terrified	anxious	nervous	upset
	aversion	oppressed	threatened	embarrassed	pain	worried

^aWord placement not significant on one factor.

^bData available only from de Rivera's study.

^cWord placed differently by Dahl and de Rivera.

tively energized. Conversely, if the implicit other is pushing us away, we feel passively de-energized, while if he or she is drawing back from us, we feel actively uncentered.

While subjects can refer emotion names to the interpersonal choices specified above, it might be objected that ordinarily they do not base their choice of terms on such interpersonal factors. In the above studies, the choices were given to the subjects and might be arbitrary impositions rather than essential determinants. We therefore decided to see if the choices could be derived when they were not explicitly mentioned. In the studies reported below, we simply asked subjects to rate how similar different emotions were to each other. In the first study, we gave subjects combinations of three terms for different emotions and asked which two were more similar. By unobtrusively arranging to have two of the three terms refer to either it or to me emotions, we hoped to influence the subject's choice of similarity without any explicit instructions about the it-me choice. In the second study, we gave the subjects all possible combinations of different sets of emotion terms and asked them to rate the similarity between the emotions. We then subjected all these similarity ratings to a multidimensional scaling program.

This statistical procedure arranges the emotions in an n -dimensional space in such a way that the distance between the emotions in the space is proportional to the degree of judged similarity. The emotions judged most similar are placed closest together; those rated least similar are placed farthest apart. The procedure attempts to arrange the emotions so that there is a perfect fit between the distance between the emotions in the space and the judged degree of similarity. In practice, of course, there is always a certain amount of discrepancy or "stress" between the proposed solution and the actual similarity data. However, by adding dimensions to the space we increase the number of possible arrangements and can eventually generate a solution with minimal stress. The dimensionality producing a satisfactory solution may be viewed as indicating the number of dimensions underlying the actual judgments of similarity (the number of different aspects that influenced the judgments). We may then use the location of the emotions to interpret the nature of the different dimensions. In the case at hand, we hoped that the different interpersonal choices described by the structural theory might emerge as the different dimensions necessary to account for the similarity ratings.

Previous work with the multidimensional scaling of different sets of emotion terms (Fillenbaum & Rapaport, 1971) has demonstrated the consistent existence of a positive-negative dimension, in spite of a failure to reveal other consistent dimensions. We therefore assumed the existence of the positive-negative factor and required our subjects to work *within* sets of positive or negative terms. By working with sets of terms that referred only to negative, or only to positive, relations, we eliminated the primary positive-

negative dimension and forced our subject to make finer discriminations. If the other interpersonal choices described by the structural theory are not inherent in the structures of emotions, we would expect to find all of the negative terms clumped together or, perhaps, arranged along a single dimension reflecting emotions of varying levels of activity or varying degrees of strength. However, we predicted that when we asked our subjects to rate the similarity between different positive (or negative) emotions, at least three other dimensions would still be necessary to account for the data, and that these dimensions would clearly reflect the interpersonal choices outlined above.

METHOD

Emotion Terms

Sixteen terms were selected from Table I—two from each of the eight clusters generated by different combinations of the first three choice factors. Of the two terms from the same cluster, one was selected to represent the dimension of "belonging" and one to represent the "recognition" dimension. (In order not to overload the subjects with too many comparisons, and to keep the analysis bipolar, we decided to work with only two of the three dimensions and to ignore the more esoteric dimension of "being.") In all but one case (discussed below), we were able to select terms that were the same or very similar to the terms used in Figure 1. That is, we were able to use empirically derived terms that closely matched those used to represent the different combinations of factors in a previously published theoretical work (de Rivera, 1977).

These terms sample a broad range of emotions, and all but three (desire, horror, and self-worth) are included in Plutchik's (1980) "Preliminary Dictionary" of emotions. While some well-known emotions (e.g., joy, serenity, and wonder) are omitted because they theoretically refer to the omitted dimension of "being," the terms clearly represent all the possible combinations of the positive-negative and active-passive dimensions stressed by Russell (1980, 1983) and Daly, Lancee, and Polivy (1983).

Subjects

Twenty subjects were recruited to participate in a study on "emotion similarity." All were either college students or recent college graduates. Dur-

ing the first testing session, subjects worked with one set of terms denoting negative and another set denoting positive emotions. When the similarity judgments were recorded, it became apparent that some subjects were taking the term *esteem* to mean self-esteem. Consequently, the comparisons using this term lacked reliability. We therefore changed the term (using the more familiar *respect*) and obtained a completely new set of ratings for the positive terms. We were able to reenlist 10 of the subjects used previously, and these, together with 10 new subjects, participated in this second testing session, which was held a week after the first session. There were no significant differences between the ratings of the old and new subjects.

Procedure

In order to ensure that the subjects made careful and thoughtful comparisons, each subject was tested individually and was asked to recollect how each emotion felt *before* making any similarity judgments. During each session the subject was given two tasks. In the first task, the subject was presented with different combinations of three emotions and was asked to pair the two that felt most similar. We designed triplets that included all negative or all positive terms. Two of the terms were both it, or both me, terms that were also similar on the extension-contraction factor (so they were from the same cluster in Table 1). The third term was dissimilar on both the it-me and extension-contraction factor. For example, subjects were given a triplet (ashamed, depressed, afraid) where both *ashamed* and *depressed* are me terms with a similar extension factor, and *afraid* is an it item with a contraction factor. Eight such triplets could be designed for each of the sets of positive and negative emotions. These triplets were presented in a triangular arrangement, with the terms randomly arranged, and subjects were asked to draw a line between the two emotions that seemed most similar. If there were no real differences between object-directed and self-directed emotions, we would expect that the terms would be paired by chance. However, the structural theory would predict that the two it or the two me terms would be paired at beyond the chance level.

A preliminary study indicated that the meaning of *similar* was critical. We had assumed that when we asked subjects to rate how similar emotions were to one another, they would base their ratings on how similar the emotions felt. However, when we conducted postrating interviews, we were surprised to find that a substantial number of subjects based their ratings on whether or not the emotions tended to *cooccur* or whether or not one could feel one emotion *about* the other emotion. (Thus, a person might rate love and anger as "similar" because "I have a fear of loving and a fear of anger.")

Such ratings constitute a sort of error that is probably not completely random. We suspect that the data from previous studies that ask subjects to rate emotions for similarity may contain such errors.)

In order to make sure that our subjects understood the meaning of similarity that we intended, we used the following set of instructions:

I am going to give you three emotions. I would like you to tell me which two emotions, of the three, *feel* more similar. I would like you to actually *compare* the feelings rather than placing the emotions together because one could feel one emotion towards another emotion. Upon making that choice, I'd like to know the *reason* why you have chosen this particular pair versus the other possible pairs.

Example: Boredom Guilt Anger

One might have chosen *boredom* and *guilt* as the more similar pair. An acceptable reason for making this choice might be, "Boredom and guilt are both *state* emotions, whereas anger is a *feeling* emotion." An unacceptable reason for making this choice might be "I feel guilty when I am bored, or I can imagine feeling guilty about being bored."

The second task asked the subjects to consider all 28 possible pairs of the emotion terms within each set of emotions. The following instructions were used:

Just as some colors seem more similar, for example blue and green seem more similar than blue and red, so some emotions feel more similar than others. I would like you to consider for a moment the following list of emotions. Just as a color has a certain quality to it (a hue, a degree of lightness, an intensity) so each emotion has a certain quality. I wish we could show you these emotions, but of course we can't. Therefore, I'd like you to take a minute to recollect how each particular emotion listed below feels. As soon as you remember, place a check beside its name. Then, I'd like you to rate each emotion pair on a scale from one to nine, one (1) being not at all similar and nine(9) being extremely similar.

RESULTS

Triplet Comparisons

The number of the 20 subjects who would pair the predicted terms of the triplets by chance is given by the expansion of the binomial $(1/3 + 2/3)^{20}$. If chance pairing was occurring, we would expect about 7 of the 20 subjects to select the two it or the two me emotions as most similar. A selection by 11 or more subjects is significant at $p < .05$. In the 8 cases where the terms refer to a negative relationship, from 13 to 18 subjects selected the predicted pair. Hence, all 8 of the selections were significant at $p < .05$. The predicted pair was selected 74% of the time. In the 8 cases of positive triplets, from 10 to 18 subjects made the predicted selection, with 7 of the selections significant at $p > .05$. The predicted pair was selected 65% of the time (rather

than the 33% we would expect by chance). We may conclude that persons may base their judgments of similarity on an intuitive use of interpersonal factors. We may influence their judgments even when the factors are not made explicit by the investigator.

Multidimensional Scaling of Negative Emotions

The 28 mean similarity ratings are presented in Table II. They range from a low of 2.1 (for contempt and ashamed) to a high of 7.2 (for ashamed and guilty), with a mean of 4.2.

These ratings were analyzed by the Alternating Least Squares scaling program described by Takane, Young, and de Leeuw (1977). An ordinal scaling of the emotions was assumed. One-, two-, and three-dimensional solutions were obtained and evaluated by noting the drop in stress (measured by Kruskal's formula one). Since only 28 comparisons were possible within each set of eight emotion terms, we cannot be sure that the three dimensional solution is completely stable, and even low degrees of stress may occur by chance. (A stress of less than .025 has a .08 probability of occurring by chance.) However, if the obtained solution is not simply a solution but *the* solution that is predicted, it seems unlikely that the solution is due to chance. Stress was .335 for a one-dimensional, .086 for a two-dimensional, and .014 for a three-dimensional solution. The sharp drops in stress suggest that the three-dimensional solution is the most satisfactory.

The different dimensions of the solution are not named by the program, which simply establishes the position of each emotion relative to every other emotion in the space. We must give an interpretation to the space's dimensions by examining the location of the various emotions. Such an examination clearly shows that the first dimension reflects the it-me factor, with all four it emotions oriented toward one end of the space and all four me emotions oriented toward the other end (Fig. 2a). The second dimension is easily interpreted as the extension-contraction factor, with contempt at one end

Table II. Mean Similarity Ratings for Negative Emotions

	Angry	Afraid	Contempt	Horror	Ashamed	Guilty	Depressed
Anxiety	4.85	6.4	3.05	4.4	5.2	5.75	5.4
Depressed	4.9	4.95	3.0	2.75	5.05	4.9	
Guilty	4.5	4.15	2.8	2.7	7.2		
Ashamed	3.9	3.5	2.1	2.25			
Horror	3.75	6.5	2.7				
Contempt	6.4	2.75					
Afraid	3.6						

and afraid and horror at the other (Fig. 2c). However, one emotion (guilty) is located away from its predicted position. The third dimension is interpretable as the belonging-recognition dimension, with all four recognition emotions located toward one end of the space and all four belonging emotions toward the other end. Four views of the three dimensional solution are shown in Figure 2. While one could take any position as the origin of the space, there is a natural "center of gravity," where the algebraic distances sum to zero, and we have maintained this spatial origin in the figures and kept all dimensions at 90° from one another.

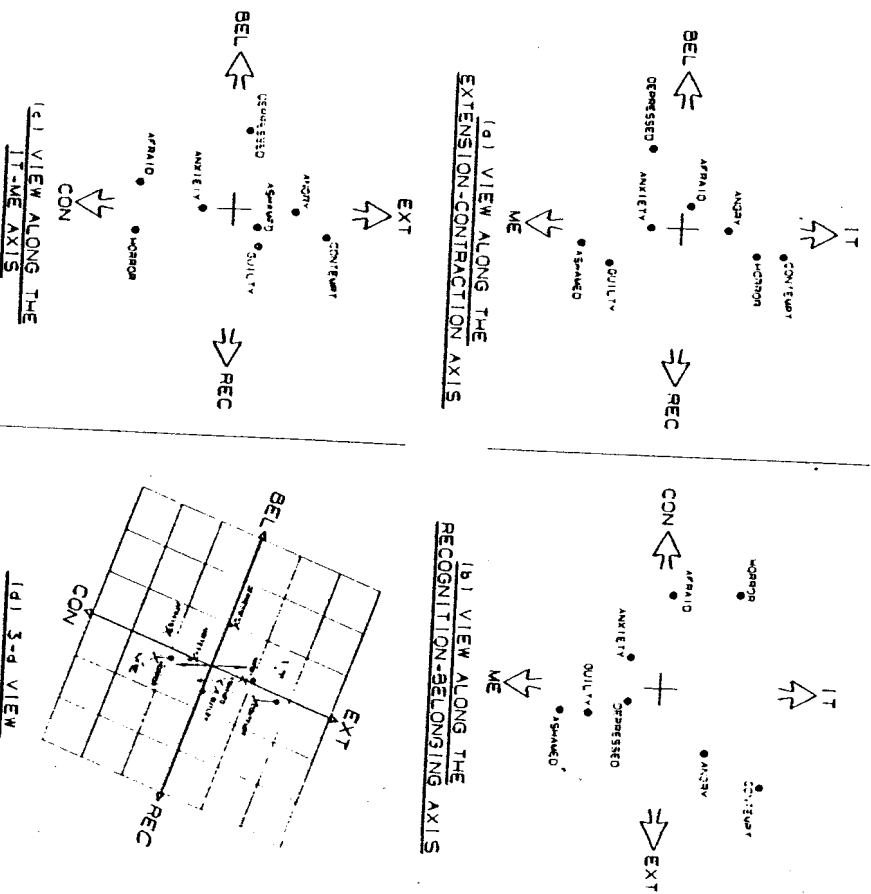


Fig. 2. The organization of negative emotions. The "closeness" of different emotions is represented in a three-dimensional space. Four views of this space are presented where the axes are interpreted to represent the it-me, extension-contraction, and belonging-recognition factors postulated to underlie the judgment of emotional similarity.

Each view of the space provides a different perspective on the relationship involving the eight emotions. View (a) is along the extension-contraction axis so that the impact of that dimension is not shown. The four it emotions are seen toward the top of the page and the four me emotions below, with the emotions having to do with recognition located to the right and those having to do with belonging located to the left. The it-me dimension is clearly more prominent, indicating that judgments of similarity are more influenced by it than by the differences between belonging and recognition. Since this view ignores the extension-contraction dimension, we see pairs of emotions (in each quadrant of the figure) that are similar on both the it-me and recognition-belonging factor.

Viewed along the recognition-belonging axis, view (b), we may see the importance of the extension-contraction factor, with the contraction emotions (except for guilty) to the left and the extension emotions to the right. The factor appears to distinguish the it emotions more than the me emotions. It should be noted that depression and shame fall along the extension dimension, in spite of the fact that both emotions lead us to feel passive. Theoretically, this is due to the fact that the felt passivity mirrors the other's extension against us. From this perspective, we should see pairs of emotions that are similar on both the it-me and extension-contraction factors. These are the most "synonymous" pairs since they share a common type of movement that differs only on the dimension of belonging-recognition.

The view along the it-me axis, view (c), is, perhaps, the most interesting in that we should see the me emotions next to the corresponding it emotions, which have similar extension-contraction and belonging-recognition factors. There should, theoretically, be one of these "mirror-image" pairs in each of the space's quadrants. In fact, we may see the predicted mirror-image pairs of angry-depressed, contempt-ashamed, and afraid-anxiety, but guilty is displaced so that it is above its theoretical pairing with horror. The isometric view (d) provides an overall picture of how the emotions are organized with respect to one another and may be compared with the theoretical view portrayed in Figure 1.

Multidimensional Scaling of Positive Emotions

The mean similarity ratings are presented in Table III. They range from a low of 2.5 (for secure and desire) to a high of 8.1 (for secure and confident), with a mean of 5.5. A comparison with the ratings for the negative emotions reveals significantly higher judged similarity ($p > .01$). When the ratings for the positive terms were submitted to multidimensional analysis, they yielded stress values of .243, .089, and .045 for one-, two-, and three-dimensional solutions, respectively.

Table III. Mean Similarity Ratings for Positive Emotions

	Desire	Love	Admiration	Respect	Self-worth	Proud	Confident
Secure	2.5	6.65	3.7	5.2	7.2	6.75	8.15
Confident	3.6	4.85	5.25	5.1	7.35	5.5	
Proud	2.5	4.6	5.9	6.1	7.3		
Self-worth	3.05	5.95	4.5	7.05			
Respect	3.6	7.0	7.45				
Admiration	4.7	6.45					
Love	5.4						

The sharp drops in stress suggest that a three dimensional solution is most satisfactory.⁴ As was the case with the negative emotions, the first dimension clearly corresponds to the it-me factor, with all four it emotions located at one end and all four me emotions at the other end. However, for the positive emotions, the second dimension is clearly interpretable as belonging-recognition rather than extension-contraction. All emotions affecting belonging are located toward one pole, and all those affecting recognition are toward the other pole. The third dimension is clearly defined as the extension-contraction factor by the position of all eight emotions. This three-dimensional solution is shown in Figure 3.

Since the extension-contraction factor is evidently less important to us in distinguishing among the positive than the negative emotions, when we eliminate it from consideration by viewing the space along the extension-contraction axis, we see pairs of emotions that appear almost synonymous. The view along the recognition-belonging axis shows the similarity between emotions with similar it-me and extension-contraction factors. Comparing view (b) with view (a), it may be noted how love is close to respect when we consider its extension toward the other but relatively closer to desire when we consider how it affects belonging. Similarly, admiration is closer to desire when we consider its aspect of contraction (we want to possess the quality we admire) but is closer to respect when we consider that it primarily affects how we recognize the other rather than whether or not we belong with the other.

View (c), along the it-me axis, shows the interesting, sometimes counterintuitive, mirror-image pairs between it and me emotions with other-wise corresponding factors. In the case of the positive emotions, we may see all four of the predicted pairings, one in each of the space's quadrants. Note how secure is related to love while confident is related to desire, and how proud is related to admiration while self-worth is related to respect. The isometric view shows the overall organization of the emotions when we take

⁴Since the stress value of .045 is relatively high and could conceivably reflect local minima, we repeated the analysis with an initial configuration of predicted values (the vertices of a cube). However, the program generated essentially the same solution, with an identical stress.

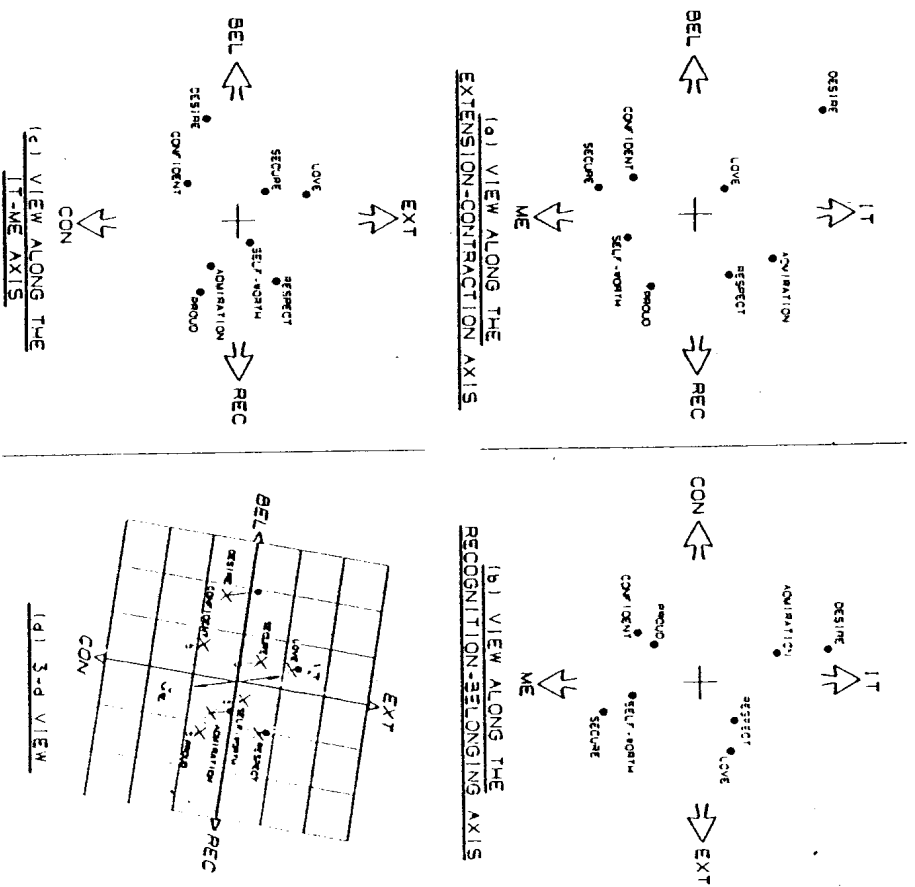


Fig. 3. The organization of positive emotions. The "closeness" of different emotions is represented in a three-dimensional space. Four views of this space are presented where the axes are interpreted to represent the it-me, belonging-recognition, and extension-contraction factors postulated to underlie judgments of emotional similarity.

all three dimensions into account and may be compared with the theoretical placements portrayed in Figure 1.

DISCUSSION

The dimensions derived from multidimensional analysis may be clearly interpreted as the factors proposed by the structural theory. These are inherently *interpersonal* factors. They have to do with whether or not an emotion is directed toward an other, with whether there is an attraction or

a repulsion between the two, with whether the person extends or contracts vis-à-vis the other (or vice versa), with whether the other belongs to the person or is socially recognized. That is, the data and their analysis support our contention that an emotion may be viewed as a relationship *between* the person and other rather than as something *within* the person.

Previous attempts to use multidimensional scaling to reveal how emotions are related to each other have not yielded such an elaborate interpersonal structure. For example, Russell (1980, 1983) shows that only two dimensions, pleasant-unpleasant and aroused-unaroused, account for the data from 28 emotion terms. Clearly, such an analysis fits the traditional idea that emotions are internal events, feelings that differ only in regard to pleasantness, level activity, and, perhaps, degree of intensity. How can we reconcile such findings with our own? There appear to be three reasons why previous studies have not revealed the dimensions that we obtained.

First, the positive-negative factor is so powerful that it tends to dominate any dimensional analysis. By removing that factor and performing the analysis on only positive or only negative terms, it was easier for us to reveal the other factors. In large part, this was probably because subjects were forced to make more precise discriminations. Since subjects perceive a higher degree of similarity between the positive emotions (at least for our own sample of terms), this may have been particularly important in achieving discriminations between the positive terms.

Second, prior investigations have not adequately sampled the full range of emotion terms and have, therefore, missed some important dimensions. For example, an examination of the terms used in Russell's analysis shows that 23 of his 28 terms refer to self-directed emotions, and none of the terms refer to the relationship of social recognition. Naturally, his analysis could not then reveal either the it-me or belonging-recognition dimensions.

Third, from our perspective, other investigations have misunderstood the dimensions that they do find. For example, most investigations have seen the positive-negative dimension as a purely hedonic dimension, having to do with pleasure and pain, whereas we feel that it is more accurately interpreted in terms of attraction and repulsion. It should be noted that the former interpretation makes the emotion appear internal to the self, in the manner of a pleasant or unpleasant sensation, whereas the latter reveals emotion to be a relationship between the person and the other.

On the one hand, seeing emotions as relationships is completely compatible with the position advanced by cognitive theorists such as Lazarus (1982). That is, emotions are not seen as mere subjective preferences, or as caused by events, but as relating the person to the objective situation in which ~~he or she is embedded.~~ Thus, ~~an emotion is not an internal response to an external situation but a transaction between person and situation.~~

On the other hand, there is one aspect of our position that may require a restructuring of contemporary thought. This is the assertion that emotion is not merely a relationship between person and situation but is a relationship between a person and a *personal other*. In the case of the it emotions, this has an obvious appeal. Most anger, horror, love, etc., is directed at a person. Of course, there are some times when we are angry or horrified at an object rather than a person. However, these instances appear either to be displacements of the emotion from primary personal targets or to involve "personification" of the object. In the case of me emotions, such as depression, guilt, and security, our position may be less apparent. Certainly, one can be depressed, guilty, or secure when no other is around, and the emotions may persist quite independently from how others are behaving. The emotions are essentially self-directed. However, we believe that in every case there is an *implicit* other and the person is behaving *as though* he or she were the object of this other's emotion. Thus, it is *as if* the depressed person is subject to an other's anger, the ashamed person is subject to an other's contempt, the secure person is subject to an other's love. Our position is that in the case of any self-directed emotion, there is a corresponding other-directed emotion held by an implicit other (cf. de Rivera, 1977). Of course, in this study we have worked only with 16 emotions or 8 me-it pairs. Theoretically, *all* emotions come in such pairs, and it should be possible to select other sets of emotions and utilize multidimensional scaling to reveal the factors designated by the structural theory, including other mirror-image pairs.

A clear advantage of this theoretical orientation is that it enables us to make precise distinctions between emotions that are often confused or poorly differentiated. For example, some persons treat confidence, security, and self-worth as almost synonymous, and it is true that these emotions have a good deal in common and are perceived as highly similar. However, it is also true that important distinctions can be made among them. For example, the average subject perceives confidence as more similar to security than to self-worth, whereas security is more similar to love than confidence is, and self-worth is closer to respect than is either confidence or security.

According to the theory, the similarity between the emotions is accounted for by the fact that they are all positive, self-directed (me) emotions, while the differences lie in the fact that the implicit other is contracting (in the case of confidence) and extending (in the case of security and self-worth), and that this movement is concerned with belonging (in the case of confidence and security) and with social recognition (in the case of self-worth). These similarities and differences are related to the essential properties and functions of the different emotions. For example, confidence enables us to believe that we *can* do something, whereas it takes security to admit that we cannot.

Note that, if the structural theory is correct, confidence is not simply the consequence of success experiences. On the contrary, for an event to be interpreted as a success, the person must see the self as responsible for the event and, hence, must already have some confidence that enables the success to "belong" to the person. Since confidence, like all emotions, is a social relationship, and since it is the mirror image of desire, we may postulate that basic confidence is related to the extent to which a person is desired by a significant other. In a similar manner, security—which functions to enable a person to let go of a protective other or to surrender control so that the person can explore what is new or admit that he or she may be wrong—mirrors love. Hence, we may predict that a person's degree of security is related to how much he or she is loved.

Of course, we might also expect characterological differences in persons who differ in their degrees of confidence, security, or self-worth. Such differences may well be related to differences in the degree to which an internalized parent is relating to the person with the corresponding "it" emotions of desire, love, and respect. In fact, viewing emotions as social relationships enables us to begin to see the many different ways in which emotional relationships are dynamically interconnected, thereby revealing an entire new world for us to explore.

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