The Effects of Mood on the Structure of the Self-concept

David A. DeSteno and Peter Salovey

Yale University, New Haven, USA

This experiment explored the influence of mood on the organisation of both the self-concept and information about a known other. Multidimensional scaling techniques were used to model the structure of both representations held by individuals experiencing happy, sad, and neutral moods. The self-concept features of neutral mood participants were primarily organised along achievement- and affiliation-oriented dimensions. In contrast, the self-concepts of happy and sad participants were less complex; self-features were primarily organised with respect to a simple valence dimension. In all three mood conditions, individuals' conceptions of a known other were predominantly organised with respect to a general valence dimension; however, as with the representation of self, the presence of a happy or sad mood accentuated the use of the valence dimension for feature organisation. The implications of this modelling procedure for investigating self-concept structure and the effects of mood on cognitive organisation in general are discussed.

INTRODUCTION

Of all the representations in memory, those concerning the self are among the most important for daily functioning. Besides providing a distinct perceptual and conceptual identity (Neisser, 1992), the self-concept...
influence motivation (Higgins, 1990; Markus & Wurfl, 1987) and emotion (Higgins, 1987; Linville, 1985; Segal, 1988; Showers & Kling, 1996). It not only guides behaviour by providing information concerning desired goals and dreaded possibilities (Higgins, 1987; Markus & Nurius, 1986), but also influences affective intensity (Linville, 1985) and acts, for some, as a diathesis for depression (Beck, Steer, & Epstein, 1992; Higgins, 1990; Segal, 1988; Showers, 1992).

These disparate effects of the self-concept are theorised to be mediated through chronic inter-individual and temporary intra-individual alterations in the relative accessibilities of different pieces of self-information (Higgins, 1990; Kihlstrom & Klein, 1994; Markus & Wurfl, 1987). That is, motivation and emotion are thought to be greatly affected by one's currently active set of self-information, the working self-concept (Markus & Wurfl, 1987). As many have shown (e.g. Klein & Loftus, 1993; Markus, 1977), the contents of the self-concept are not stored randomly in memory; rather, they are associatively linked features that comprise a mental representation (i.e. a concept). Consequently, the contents of the working self-concept, and in turn, the relative accessibilities of nonactivated self-information, are partly determined by the idiosyncratic organisation, or association, of self-information possessed by individuals. That is, the differential probabilities that certain bits of self-information will enter the working self-concept are some function of the organisational scheme, or structure, of each individual's concept of self (Markus & Wurfl, 1987); the activation of certain bits of self-relevant information should increase the accessibilities of highly associated other bits (cf. Higgins, Van Hook, & Dorfman, 1988). Therefore, an understanding of the organisation of the self-concept, in addition to solely its contents, is fundamental to investigating its functioning; such knowledge will allow us to predict alterations in the relative accessibilities of certain types of self-information to consciousness, and thereby, malleability in the phenomenological experience of self (cf. Markus & Kunda, 1986; McGuire & McGuire, 1988).

Linville (1985, 1987) and Showers (1992) have successfully used multi-dimensional models of self-concept organisation to predict dysphoria and self-esteem. In each of their models, the differential associations among specific types of self-features have been shown to be related to the experience of emotion. Importantly, this relation holds even when controlling for the valence of the features, thereby demonstrating the unique influence of self-feature organisation on the experience of emotion. However, previous work examining the relation between self-concept structure and mood has been primarily correlational; mood has not been manipulated to establish firmly the direction of causality. Indeed, as Showers (1992) has noted, the interrelation of mood and self-concept organisation may repre-
sent bidirectional causalities; cognitive organisation may be affected by, as well as influence, affective experience.

The purpose of the present experiment is to examine the possibility that alterations in affective state may influence the organisation of the self-concept, and therefore, the malleability of the experience of self. That is, as the associative interrelations among self-features fluctuate, the composition of the specific sets of features that become active should also differ as a function of these changes. In this experiment, we suggest a technique for modelling the organisation of self-relevant features and then examine the influence of happy and sad mood on feature organisation.

Structure of the Self-concept

Many models have been suggested to chart the conceptual organisation of self-features (Klein & Loftus, 1993; Markus & Wurf, 1987). Current research suggests that the self-concept is comprised of both semantic and episodic information, only some subset of which is active at any one time (Kihlstrom & Klein, 1994). Importantly, associations among these self-features must be organised in a meaningful way (cf. Medin, 1989; Smith, 1990); the associative links among a set of traits and/or exemplars must vary in some systematic fashion, or the concept of self would not be coherent. Indeed, this idea forms the basis of what has been termed the self-schema (Kelly, 1955; Markus, 1977; Markus & Smith, 1981; Markus & Zajonc, 1985).

As Tversky and his colleagues have shown, the perceived similarity of any two objects is not fixed, but rather is a function of the dimensions used for comparison (Gati & Tversky, 1984; Tversky, 1977). Therefore, as Smith and Zárate (1992) have argued, the associations among exemplars may vary as a function of context, motivation, or social knowledge. For example, whether a male Asian professor is perceived as more similar to a nonAsian, male professor, or to a female Asian dentist, depends on the differential dimension weights applied to the occupation versus race dimensions. Without such differential weightings of dimensions, any two objects could be arbitrarily similar (Murphy & Medin, 1985). Thus, in any concept, features should be linked along dimensions that are weighted differentially for importance (Medin, 1989; Murphy & Medin, 1985). The exact dimensions used, and their weights, derive from developmental experiences and vary both interindividually and as a function of situational cueing (Medin, 1989; Smith & Zárate, 1992). Thus, malleability of the self-concept could be explained by the varied use of certain principles to bind together pieces of self-knowledge in the working self-concept. For example, the McGuires have shown that the contents of the working self-concept obey a principle of distinctiveness (McGuire & McGuire,
Therefore, associations of self-features must be dynamic, for the set of features that distinguish one in certain environments changes in others (McGuire, McGuire, & Cheever, 1986).

One organisational model of the self-concept, then, may be thought of as a set of self-features arrayed in an $n$-dimensional space, with the distances among the items being some function of their levels of association. Moreover, the different dimensions could vary in salience as a function of dispositional or situational influences, thereby altering the inter-feature distances in the configuration. Such a model would provide information regarding not only the complexity of the self, but also the relation of each feature both to the salient dimensions of organisation and to each other. Thus, the working self-concept would consist of a certain set of associated (i.e. close in distance) features in the configuration; however, as dimensional saliencies change, the composition of the set of active information will also, due to the changing configurational positions of the self-features. We believe that changes in mood state may be one such situational variable that is capable of influencing self-concept organisation.

Mood Influences on Cognitive Processes

Research attesting to the influence of affect on cognitive processes continues to grow (Clore, Schwarz, & Conway, 1994; Forgas, 1992; Neidenthal & Kitayama, 1994). In an extensive review of research investigating the effects of mood on the self, Sedikides (1992, p. 302) concluded that: “... mood has reliable effects on attention, memory, judgments, expectations, and behaviors regarding the self.” In addition, Singer and Salovey (1988) summarised how the effects of mood on the recall of self-relevant material reflect a mood-congruent bias. Although some inconsistencies have been reported (Parrott & Sabini, 1990), most mood research finds that individuals experiencing a happy or sad mood tend to recall a proportionately higher number of like-valenced self-attributes, a finding that can be replicated with clinically depressed individuals (Harter & Marold, 1991; Matt, Vázquez, & Campbell, 1992; Salovey & Singer, 1989).

More relevant to the present issue, however, is evidence showing that mood affects the attention given to the hedonic qualities of information (e.g. Forgas & Bower, 1987; Halberstadt & Neidenthal, in press; Wegener, Petty, & Smith, 1995) and stimulus categorisation (Mayer, Gaschke, Braverman, & Evans, 1992; Murray, Sujan, Hirt, & Sujan, 1990). If mood increases the attention individuals give to the hedonic qualities of information, then it follows that for purposes of determining perceived similarity, or association, among information items, the hedonic dimension will increase in importance. In a convincing demonstration of this effect in
the area of face perception, Halberstadt and Niedenthal (in press) showed that individuals experiencing a happy or sad mood evidenced a greater reliance on the hedonic quality of faces (i.e. their emotional expressions) in determining inter-face similarities than did individuals not experiencing a heightened mood. This effect, moreover, was replicated using a variety of stimuli and mood-induction procedures, thereby attesting to its robustness.

We believe that a similar phenomenon may occur with respect to the features comprising the self-concept. More specifically, the salience of the hedonic dimension for organisational purposes may increase among individuals experiencing a heightened mood state. Consequently, the association of self-features would be based primarily on their respective hedonic qualities, as opposed to other more fine-grained criteria. Such a situation could have great consequences for mood regulation. For instance, if one is in a negative mood, this model would predict an increase in the amount of like-valenced self-information becoming accessible, regardless of its relevance to the current situation; negative self-exemplars usually not associated in the working self-concept (e.g. failing an exam and being told one is unattractive) may suddenly become linked based solely on their valence.

The Present Study

The present study was designed to determine whether mood influences the structure of the self-concept. To accomplish this goal, we employed an individual difference scaling (INDSCAL) analysis similar to the one used by Halberstadt and Niedenthal (in press) and Salovey (1986). INDSCAL, being a type of multidimensional scaling (MDS), is designed to uncover the latent dimensions used to organise a set of stimuli. However, as opposed to two-way scaling techniques, it allows direct comparisons between the multidimensional configurations of different experimental groups. Moreover, it produces an \( n \)-dimensional configuration of stimuli arrayed along specific, differentially weighted dimensions. This configuration provides an excellent analogue for the conceptual model of self-concept organisation previously discussed.

The MDS solutions (i.e. the \( n \)-dimensional configurations of descriptive features) were derived from participants’ ratings of personality traits and physical attributes, two important types of information contained in the self-concept (McGuire, 1984; Prentice, 1990). We collected indices of the associations of these terms with respect to the self, not simply measures of their semantic similarity. Participants also rated the same set of items for their descriptiveness of another person, then US President George Bush. The use of a president as a target for trait judgements has been employed successfully in past research (e.g. Keenan, Golding, & Brown, 1992); both a president’s personality and appearance are somewhat familiar to the
general public. The George Bush task was included for two purposes. First, if the configurations for self and other differed, as we expected, we could be confident that the resulting organisational patterns were not due solely to the semantic relations of the terms, but rather to their relations in the context of the self. Second, different configurations would suggest that the self may possess some unique representational properties (see Prentice, 1990).

In this study, we compared the MDS configurations of individuals in happy, sad, and neutral moods. In accord with the findings of Halberstadt and Niedenthal (in press), we expected that individuals experiencing a happy or sad mood state would rely more on a generalised hedonic dimension for self-feature organisation than would those in the neutral condition. In addition, we expected that the George Bush MDS configuration would be less complex than that for the self (cf. Prentice, 1990), but would show a similar increase in the use of valence in determining feature organisation in the presence of a heightened mood state.

METHOD

Participants

Sixty undergraduates (23 male, 37 female) recruited from the introductory psychology subject pool and the university at large participated in this study. All participants were between 17 and 23 years of age ($M = 19$). Participants recruited through the introductory psychology subject pool received credit toward fulfilling course requirements; participants recruited through university-wide solicitations received $5.00. Participants were assigned randomly to either happy ($n = 20$), sad ($n = 20$), or neutral ($n = 20$) mood-induction conditions.

Mood-induction Procedure

Film clips were used to induce happy and sad moods; in addition, a third clip, designed to have no appreciable influence on mood, was used as a control condition. These mood-induction stimuli were created by editing segments of professionally produced films into short and coherent clips of 8–14 minutes. The happy clip consisted of segments from Live in Washington, a performance by comedian Dennis Miller. The sad clip consisted of segments depicting the life events and death of a woman with terminal cancer; these segments were taken from the feature film Terms of Endearment. The neutral clip consisted of segments depicting business transactions drawn from the feature film The Boost. Each clip has previously
produced stable and moderately intense moods in other experiments in our laboratory (e.g. Palfi & Salovey, 1993).

At the beginning of the experimental session, subjects were requested simply to watch the film clips; no mood-intensifying instructions were provided. The clips were presented on a large television screen in a darkened room. Immediately after viewing the clips, subjects completed a mood manipulation check and then began work on the other measures comprising the experiment.

We chose a film method of mood induction in an effort to avoid direct engagement of participants’ self-concepts. If a mood-induction procedure that invoked autobiographical memories or presented specific (albeit false) evaluative information were used, it could not be determined if any subsequent self-concept measures were registering changes due primarily to mood or to cognitive responses to salient self-relevant information. Although film clips do not preclude “direct” cognitive effects on the self-concept, they seem less prone to causing such systematic influences than self-focused mood-induction procedures (Salovey & Rodin, 1985).

Measures

*Mood Manipulation Check.* In previous studies involving happy and sad mood manipulations, a short yet reliable measure of mood was obtained by using six items presented in directionally counterbalanced orders on 7-point scales (e.g. Salovey, 1992; Salovey & Birnbaum, 1989; Salovey & Singer, 1989). The six items comprising the mood manipulation check in the present study were happy, exhilarated, sad, satisfied, content, and disappointed. Each item was scored in the positive direction. Scores were then summed to produce a positive mood index.

Participants completed three short answer questions (e.g. How many hours per week do you watch television?) before turning to the six items of the mood manipulation check. These items served to reduce the association between the film clips and the mood manipulation measure.

*Descriptiveness of Self and George Bush Measures.* These two measures asked subjects to rate items for their descriptiveness with respect to the self and to George Bush. The items represented a combination of personality traits (e.g. intelligent, dependable, nervous) and physical attributes (e.g. muscular, fat, feeble). The personality traits were drawn from an extensive Big Five factor model (John, 1990); four high-loading traits (two positive, two negative) were selected from each factor. We added 15 items that describe physical characteristics, resulting in a 35-item list. Two randomly selected item orders were used.
Participants indicated the descriptiveness of the items with respect to self and to George Bush by placing a mark on a line below each item. The line was anchored on the left by “does not describe me [Bush] at all” and on the right by “describes me [Bush] very well”. We scored these measures by assigning a subject’s spatial placement of a mark on the line a corresponding numerical equivalent ranging from one to ten.

_Bipolar Rating Scales._ In order to aid in dimension interpretation, we collected normative ratings of the 35 descriptive items on a number of 8-point bipolar scales (see Kruskal & Wish, 1978) from different sets of participants. Each scale asked how characteristic each item was of a certain type of person. The bipolar scales which we expected to be of relevance for the present study were: characteristic of a high achieving person, characteristic of a social person, characteristic of a small/large person (i.e. body shape), and characteristic of a female/male (i.e. gender-relevance). In addition, ratings of the overall desirability of each descriptive item were obtained. These scales were selected based upon other research examining the organisation of personality features (e.g. Blatt & Blass, 1992; Cantor, 1994; DeSteno, 1996; McAdams, 1985; Rosenberg, Nelson, & Vivekananthan, 1968).

**Procedure**

One to four individuals participated in each session. They were seated in private booths. On arrival, they were informed that they would be asked to view a short video clip and complete a battery of questionnaires. After consent was obtained, the experiment began with the showing of the film clip. At the clip’s conclusion, the experimenter instructed the participants to begin working on the battery of questionnaires and then left the room so as not to influence their mood states. When the participants finished the questionnaire battery, they brought it to the experimenter in a separate room and were debriefed. Subjects always completed the questionnaires in the same sequence: the filler items, the mood manipulation check, the 35-item descriptiveness of self measure, and the 35-item descriptiveness of George Bush measure.

**Data Analysis**

In order to examine the organisation of self-relevant information and to investigate the possibility of affective influences on it, we subjected the data to an INDSCAL analysis. Multidimensional scaling attempts to reveal the latent dimensions that characterise the interrelations among stimuli. It produces _n_-dimensional configurations that spatially represent the struc-
ture, or organisational scheme, of the stimulus set (here, the 35 personality/physical attributes), thereby providing a glimpse of how individuals cognitively organise self-relevant information. The configuration, and its underlying dimensions, must then be interpreted in a meaningful way.

In the present study, participants rated each of the 35 items for similarity to self. Unlike rating each item for its similarity based on a unidimensional criterion (e.g. the colour red), individuals made similarity judgements with respect to a multidimensional attitude object, the self-concept. Therefore, the resulting configurations should not recover the specific dimension “like self” (or “redness”), but rather recover the dimensions used to evaluate the multifaceted self-concept (cf. Goldstone, 1994). More importantly, however, the proximities should not reflect simple associations based upon the semantic relations among items, but rather reveal their interrelations with respect to the self.

Multidimensional scaling (MDS) requires proximity matrices as input. Therefore, we chose to use Pearson correlations among the items, a profile similarity index (Kruskal & Wish, 1978), as our proximity measure. Additionally, as MDS procedures require the proximity data to be entered in the form of dissimilarities, we subtracted the intercorrelations among the 35 self and Bush items from one and used the resulting matrices as input.

For both the self and George Bush analyses, we entered a dissimilarity matrix for each mood group. The resulting INDSCAL configuration, the group configuration, is an $n$-dimensional map based on the entire set of matrices. Group differences in three-way scaling solutions are reflected by dimensional weights that indicate the importance, or salience, each group attached to each dimension. To produce the configuration of a specific mood group, the overall configuration is stretched and/or shrunk along specific dimensions by a factor of the square root of the corresponding weights. Consequently, the distances between points in the configuration change, implying an analogous change in the perceived similarities of the corresponding stimulus items. The bipolar rating scales provided empirical information used to interpret the dimensions of the resulting configurations. All subsequent analyses were aimed at characterising the differences in the organisation of self- and other-structure among the three mood groups.

RESULTS

Mood Manipulation Check

A one-way analysis of variance conducted on the mood manipulation check revealed a significant effect of mood induction condition [$F(2,57) = 28.80$, $P < .0001$]. Subsequent analyses employing Tukey’s HSD multiple
comparison test ($\alpha = .01$) confirmed that each of the three groups of participants reported reliably different levels of positive affect: participants in the happy mood group reported the highest positive affect ($M = 31.95$, $SD = 4.67$), followed by participants in the neutral mood group ($M = 23.90$, $SD = 6.83$), and participants in the sad mood group ($M = 18.45$, $SD = 5.26$).

Scaling Analysis for the Self-solution

Each mood group’s dissimilarity matrix was entered into the ALSCAL multidimensional scaling algorithm, and four separate three-way nonmetric solutions were computed. The two- through five-dimensional configurations accounted for 41.0%, 51.1%, 55.4%, and 57.9% of the variance, respectively. We used the amount of explained variance and dimension interpretability as criteria for selecting the best solution. Consequently, we selected the three-dimensional solution for further analysis.

Figure 1 presents the $1 \times 2$ dimension cross-sectional view of this configuration for easier examination. In interpreting this solution, it is important to note that the Euclidian distance between any two points in the configuration is an index of their perceived similarity and that this configuration is the across-mood condition group space; each mood group produces a unique configuration due to its differential dimension weights.

Structural Organisation of the Self-concept

Before examining differential dimension usage among the mood groups, it was first necessary to identify the dimensions of the group space. Based on visual inspection of the solution and on other MDS research examining the structure of person descriptors (e.g. DeSteno, 1996; Rosenberg et al., 1968), we felt that four possible labels for the three dimensions might be: generalised valence, achievement-relevance, affiliation-relevance, and physical size. Multiple regression analyses were employed to evaluate empirically the fit of these labels; beta-coefficients were used as criteria for determining dimension identification (see Kruskal & Wish, 1978).

Initially, we wished to determine if the first dimension of the solution represented general valence or a more distinct organisational criterion; as previously noted, other work has found the first two dimensions of similar configurations to represent achievement- and affiliation-oriented themes.

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1 Because only the first two dimensions of the solution are of primary interest, only the dimension $1 \times$ dimension 2 cross-sectional view is displayed. The full set of three-dimensional coordinates are available from the first author.
Regressing the general desirability ratings of each feature onto its dimension 1, dimension 2, and dimension 3 coordinates revealed that valence was almost equally predicted by the first two dimensions but showed no relation to dimension 3 ($\beta_{\text{dim1}} = - .63, P < .001, \beta_{\text{dim2}} = - .66, P < .001, \beta_{\text{dim3}} = - .02, \text{n.s., } R^2 = .91$). Consequently, we next examined the possibility that dimensions 1 and 2 represented affiliation- and/or achievement-oriented criteria. However, as one would expect, the achievement and affiliation attribute ratings were moderately correlated (see DeSteno, 1996; Rosenberg et al., 1968); certain attributes are as indicative of success as they are of sociability. Therefore, in order to provide clear labels for these two dimensions, we regressed the features' dimension 1 and dimension 2 coordinates on to their achievement and affiliation ratings. We chose to treat the features' achievement and affiliation ratings as the independent variables in the regression models in order to partial each for the other and, thereby, allow more precise estimates of the unique contribution of these two related variables.
This secondary analysis revealed that, as expected, dimensions 1 and 2 organised the features with respect to affiliation- and achievement-relevance, respectively. Features’ dimension 1 coordinates were predicted reliably by their affiliation-relevance ($\beta_{\text{ach}} = .03$, n.s., $\beta_{\text{aff}} = -.60$, $P < .02$, $R^2 = .33$); dimension 2 coordinates showed the opposite pattern ($\beta_{\text{ach}} = -.47$, $P < .02$, $\beta_{\text{aff}} = -.35$, n.s., $R^2 = .60$). As one can see from the parameter estimates, the true best-fit achievement and affiliation lines would not be orthogonal, and, as noted, this makes sense. INDSCAL dimensions, however, are not rotatable. Nonetheless, the regression analyses confirm that the configuration dimensions do act as acceptable proxies for these two oblique dimensions. \(^2\)

Dimension 3 was the primary predictor of body size ($\beta_{\text{dim1}} = -.27$, $P < .05$, $\beta_{\text{dim2}} = .20$, n.s., $\beta_{\text{dim3}} = .65$, $P < .001$, $R^2 = .55$). It acted to explain residual variation due to the inclusion of the physical attribute features. It is important to note, however, that these features were also integrally related to the other two dimensions, but, as one would expect, some residual variation remained after accounting for these relations to the first two dimensions. This variation simply referred to body size as devoid from any type of evaluation; dimension 3 was not reliably related to the general desirability ratings of the features. Thus, in accord with previous research, we found that the associations of self-features in the self-concept are determined with respect to two primary organisational criteria: achievement-relevance and affiliation-relevance.

**Mood Effects on Self-concept Organisation**

In beginning to examine the differences among the three mood group configurations, we noticed that there was a large disparity in the fit of the group configuration to the individual mood group configurations. More specifically, the group space provided an excellent fit for the neutral group’s configuration; it accounted for 71.7% of its variance. However, it provided a poorer fit for the happy and sad mood group configurations, explaining 49.7% and 31.9% of their variances, respectively. Consequently, the group space did not represent the three individual configurations equally. Rather, the overall space was most similar to the neutral group’s configuration, but not as representative of the happy and sad

\(^2\) Similar interpretations also resulted from examining the correlations of the dimension coordinates with the attributes’ partialled achievement and affiliation ratings; attributes’ achievement ratings were partialled for their affiliation-relevance and vice versa. As expected, dimension 1 correlated reliably with the attributes’ residualised affiliation-relevance ($r = -.38$, $P = .02$), and dimension 2 correlated with the attributes’ residualised achievement-relevance ($r = -.30$, $P = .08$). In both cases, the correlations of the attribute coordinates with the noncorresponding residualised ratings were far from reliable.
groups' configurations. A disparity in fit of this size suggests one of two situations. Either the happy and sad mood group matrices contained higher levels of error variance as compared with the neutral group’s matrix, or the individuals in these two groups relied more heavily on dimensions not used by individuals in the neutral group (Arabie, Carroll, & DeSarbo, 1987; see also Carroll, 1972). The fact that there was no similar disparity in the fit indices among the different mood groups for the George Bush INDSCAL solution (to be discussed later) suggested that error variance was not the cause. Therefore, we decided to investigate the possibility that happy and sad participants utilised one or more dimension(s) not used by participants in the neutral mood group.

We conducted a second INDSCAL analysis using only the happy and sad group matrices. This procedure removed the overriding influence of the neutral group participants on the resulting group configuration, thereby allowing a clearer examination of the solution produced as a result of heightened affective states. We examined two-, three-, and four-dimensional solutions. The percentages of explained variance for these solutions were 43%, 52%, and 56%, respectively. Based on the amount of explained variance and interpretability, we selected the three-dimensional solution for further analysis.

We again employed multiple regression techniques to interpret the dimensions empirically. As can be seen in Table 1, dimension 1 appeared to represent the general valence or hedonic tone of the features; it was the best predictor of achievement- and affiliation-relevance, as well as of basic desirability. Dimension 2 was the primary predictor of body shape (β_{dim1} = -.34, P < .05, β_{dim2} = .45, P < .001, β_{dim3} = -.17, n.s., R^2 = .33), and dimension 3 reliably predicted gender-relevance (β_{dim1} = .08, n.s., β_{dim2} = .19, n.s., β_{dim3} = .48, P < .01, R^2 = .91).

In order to index the differential levels of importance placed on the valence dimension versus the other two, we examined the weight ratios of the dimensions for both groups. As can be seen in Fig. 2, the valence dimension was a more salient organisational criterion than either body shape or gender-relevance. Thus, the presence of a heightened mood state resulted in the emergence of a generalised valence dimension as the primary organisational criterion for features of the self-concept. Rather

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3 Individual INDSCAL weights cannot be compared directly among groups because each mood group’s dissimilarity matrix is normalised separately by the INDSCAL algorithm (MacCallum, 1977). Therefore, as MacCallum (1977) suggests, intragroup weight ratios are used as a measure of dimension importance for between-group comparisons. For example, the weight ratio dimension 1/dimension 2 is used as a measure of the importance of dimension 1 versus dimension 2. It is also important to note that there is no agreement on a procedure to test the statistical significance of weight differences.
than basing featural associations upon the more fine-grained criteria of achievement- and affiliation-relevance, two broad organisational criteria usually employed for structuring self-relevant information (DeSteno, 1996; Rosenberg et al., 1968), individuals experiencing a positive or negative mood used the more basic dimension of general valence to determine the relations among their self-features.

Structural Organisation of Information Concerning a Known Other (George Bush)

We followed a similar analysis procedure for the George Bush feature ratings. We examined the 2- through 5-dimensional solutions; the percentages of explained variance were 46%, 50%, 54%, and 55%, respectively. Based on the amount of explained variance and interpretability, we selected the three-dimensional solution for further analysis. Figure 3 presents the $1 \times 2$ cross-sectional view of this configuration.\(^4\)

The group configuration showed no disparities with respect to its degree of fit with each of the three individual mood group configurations; the percentages of explained variance for the happy, sad, and neutral group configurations were 50.6%, 52.1%, and 48.3%, respectively. Therefore,

\(^4\) As noted previously, the full set of three-dimensional coordinates is available from the first author.
unlike the self-concept solution, it seemed probable that participants in each mood group used the same principal dimensions in organizing information about George Bush.

We again employed multiple regression analyses for dimension identification. As opposed to the baseline self-concept configuration, dimension 1 represented general desirability, or valence ($\beta_{\text{dim1}} = -.73$, $P < .001$, $\beta_{\text{dim2}} = .35$, $P < .01$, $\beta_{\text{dim3}} = -.12$, n.s., $R^2 = .82$), not achievement- or affiliation-relevance. This finding supported our prediction that information

**Weight Ratios**

- Valence / Body Shape
- Valence / Gender-relevance

**FIG. 2** Weight ratios of dimension importance for the self-concept solution derived from the happy and sad mood groups. A weight ratio of 1 implies an equal weighting of the dimensions. Weight ratios greater than 1 indicate greater importance of the dimension in the numerator; ratios less than 1 indicate greater importance of the dimension in the denominator.
contained in the self-concept may be organised differently than information representing other individuals. Body shape was predicted by both dimensions 1 and 2 (β_{dim1} = -.55, P < .001, β_{dim2} = -.44, P < .01, β_{dim3} = .11, n.s., R^2 = .48). We labelled dimension 2 as body shape; in the George Bush solution, this dimension does not simply consist of residual size information, but also is related to desirability. Finally, we labelled dimension 3 as gender-relevance (β_{dim1} = -.12, n.s., β_{dim2} = .27, n.s., β_{dim3} = .56, P < .001, R^2 = .35).

In order to examine the effect of mood on the use of the valence dimension for organisation, we again compared intragroup weight ratios (see Fig. 4). Participants in the neutral mood group showed a relatively equivalent use of all three dimensions. Participants in both the happy and sad mood groups emphasised the valence dimension more than either the body shape or gender dimensions. This pattern is similar to the one found in the happy and sad mood group self-concept solutions and supported our
prediction that mood causes a greater reliance on hedonic information for cognitive organisation. Interestingly, the emphasis on the valence dimension, as compared to the other two, was of a greater magnitude in the George Bush solution than in the self-concept solution, indicating that the representations of other individuals may be more influenced by mood state than is that of the self.

**Weight Ratios**

- **Valence / Body Shape**
- **Valence / Gender-relevance**

*FIG. 4* Weight ratios of dimensions for the George Bush solution derived from the happy, sad, and neutral mood groups. A weight ratio of 1 implies an equal weighting of the dimensions. Weight ratios greater than 1 indicate greater importance of the dimension in the numerator; ratios less than 1 indicate greater importance of the dimension in the denominator.
DISCUSSION

This experiment provides support for our two initial hypotheses. First, the structure of the self-concept appears to differ from that of known others. That is, in accord with the views of many personality theorists (e.g. Blatt & Blass, 1992; Cantor, 1994; McAdams, 1985) and findings of previous trait structure investigations (e.g. DeSteno, 1996; Rosenberg et al., 1968), we found that self-relevant information was organised along the two primary dimensions of achievement- and affiliation-relevance. Associations among the features of a known other, then US President George Bush in this case, were primarily based on a more simplified criterion, generalised valence. This finding also indicates that the reported MDS configurations do not simply represent the semantic interrelations among the features, but that the resulting configurations are derived from feature judgements with respect to specific concepts. In providing a framework for feature associations, the dimensions may be thought of as deriving from schemas (Markus & Zajone, 1985) or theories (Medin, 1989), both of which direct attention to specific types of information. These findings, however, do not definitively show that the representations of known others is always less complex than that of the self; as Prentice (1990) has shown, familiarity with the known other is an important moderator. The levels of complexity, and dimensions used for concept organisation, will no doubt differ for person concepts as one moves along a gradient of the familiarity of these individuals.

More importantly, however, our central prediction concerning the effects of heightened mood states on the structures of these concepts was confirmed. Although individuals in the control condition (i.e. neutral mood) utilised affiliation- and achievement-relevance dimensions to determine the associations among the features of their self-concepts, individuals experiencing a heightened mood state simply used general valence as an organising principle. Thus, much as happy and sad individuals have been shown to use simple hedonic information for the categorisation of faces to a greater degree than individuals in a more neutral mood (Halberstadt & Niedenthal, in press), our findings suggest that the same organisational effect may occur with features comprising person concepts.

As predicted, the effect of mood on cognitive organisation was similar across concepts of self and others, indicating a general effect of mood on concept structure. Additionally, as the reliance on hedonic information was more pronounced in the representation of the known other, these findings suggest that the influence of affect on organisation may be greater for less certain or less familiar information. Indeed, Sedikides (1995) has shown that alterations in mood state affect peripheral information in the self-concept to a much larger degree than central information (i.e. core features of the self).
Although clear and intriguing, the findings of the current experiment must be interpreted in the light of two principal limitations. First, the self-concept models presented here are aggregated representations; they are generalisations derived from the unique self-concepts of many participants. Their dimensional structures and alterations, however, reflect, in all probability, cognitive phenomena that are common to each of us and, therefore, are quite telling in the implications they suggest for emotional influences on the dynamic organisation of self-relevant information. Second, the MDS analysis technique here employed relied on the explicit ratings of features to determine their structural interrelation. Implicit measures of organisation promise to provide interesting alternative windows into the structure of the self-concept by indexing more precisely feature associations in memory. Although initial work employing implicit techniques to investigate self-concept structure has supported the use of achievement and affiliation criteria in feature organisation (DeSteno, 1996), these techniques have not yet been used to investigate the influence of mood on concept structure.

Nonetheless, the findings presented here provide initial evidence that changes in affective states may alter the structure of the self-concept and, consequently, that the relation between self-concept organisation and affective experience is bidirectional. Just as increases in the associations among like-valenced self-features have been shown to result in intensified affective experiences (Showers, 1992), the results of the present study suggest that heightened affective experiences result in a reorganisation of self-features based primarily upon valence. That is, in the presence of a happy or sad mood state, individuals’ self-features come to be grouped by valence as opposed to other criteria (e.g. achievement-relevance).

Such dynamic associations among self-features may mediate the malleability of the working self-concept. As inter-featural associations change, the composition of the sets of self-features that are active, and, therefore, the relative accessibilities of certain other self-features, may fluctuate, resulting in different phenomenological experiences of self. Such varied organisational patterns may be important to mood regulation; depressed individuals, for example, evidence heightened accessibilities for all negative self-information (Segal, 1988), suggesting the use of valence as an organisational scheme. We believe, therefore, that the study of the structure of the self-concept, as opposed to solely its content, promises to provide important insights into both the functioning of this mental representation and its links to motivation and emotion.
REFERENCES


