The Structure of Emotional Responses and Its Consequencies: The Comparison between East and West

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In this article, the structure of emotional responses, relationship between those structures and influence of each structure on candidate evaluation were examined in the field of politics. The structure of emotion has been identified as having a two dimensional structure; that is, emotional responses were clearly clustered into two dimensions orthogonally. Two dimensions are generally identified as the positive and negative emotionalities. These results demonstrate that whatever emotional responses are elicited by any information (cognition), such responses can be grouped into either positive emotionality or negative emotionality. And also results suggest that positive emotion is the more potent consideration influencing the disposition to vote for a candidate — though negative emotion is also a powerful factor. The evidence that there are cultural differences between the effect of positive emotion and of negative emotion was not found. On the other hand, differences in the amount of variance explained with those emotionalities between two countries were found. In another result, it was shown that the correlations between positive and negative emotion were very low in both countries. These results support Abelson et al's findings in 1982 that positive and negative emotion are nearly independent of each other. All of which provides further good evidence to validate the circumplex model.

That emotion is important for political attitudes and behaviour is attested to by common lore and psychological research (Roseman at al. 1986). Political pollsters and media consultants place considerable weight on the emotional tone of their campaigns and on the feelings of the electorate (Raines, 1984; Roseman et al., 1986).

In the analysis of survey data from the 1980 American presidential election, Abelson, Kinder, Peters and Fisk (1982) showed that respondents' feelings toward the candidates were highly predic-

tive of candidate preferences. Other studies of emotion and politics have also shown that feelings have strong predictive effects on issue appraisal (Conover and Feldman, 1986), as well as on political participation(Marcus, 1985). The primary concern of the initial studies has been to establish that emotions are worthy of study and that they add explanatory power to our understanding of a variety of political phenomena.

While the studies cited above have established the value of studying emotions and in redressing the imbalance resulting from the dominance of the cognitive approach to human behaviour, it must also noted that these researchers have failed to provide a sound theoretical basis. Recent attention to affect has been marked by contradictory and anomalous findings; contradictory findings have been reported in different studies as to the number of dimensions of emotionality, and even when the structure of emotional response has been identified, its significance and relevance have not been properly understood (Marcus, 1988). In a study of political communications, Roseman, Abelson, and Ewings (1986) reported four dimensions. In an investigation of economic issues, Conover and Feldman (1986) reported three dimensions. In a study of candidate appraisal, Abelson and his colleagues (1982) and Marcus (1988) reported two dimensions.

The need for clarification of the structure of emotion is suggested in many studies. For example, when individuals regard a situation or an event (such as a candidate, an issue or a circumstance), they often report good and bad feelings simultaneously (Diener and Emmons 1984; Warr, Barter, and Brownbridge, 1983). Abelson and his colleagues (1982) find that "Perhaps our most psychologically provocative result is the near independence of negative and positive affects" (i.e. the frequent concurrent reports of both good and bad feelings). Without clarification of the structure of responses, the way that feelings interact with thinking and influence political behaviour will remain obscure.

Most investigators, regardless of the particular question they have asked, have employed a judgement rather than a component study, requiring observers to use some kind of emotion vocabulary and judgement procedure to identify the emotions perceived. Among these judgement processes, a dimension task, in which the observer rates each emotion on a series of scales, is one widely used

method (Ekman et al., 1979). Dimension theorists have been most interested in the scales or dimensions postulated to describe best (and underlie) the emotion categories. These theorists have formulated a small set of independent dimensions that describe the differences between the types of behaviour associated with emotion and are relevant descriptions of emotional phenomena.

In studying emotional responses in the field of politics, Marcus (1988) outlined three models of the structure of affect according to a basic assumption of the number of dimensions: the valence model, the discrete model and the circumplex model.

The Valence Model of Emotion In the valence model, within the study of beliefs and attitudes, affect is defined as the evaluative dimension of an attitude. Attitudes are composed of three dimensions: affect, behavioral disposition, and cognition. Affect and evaluation are treated as synonymous (Fishbein and Ajzen 1975). According to this view, emotion is assumed to be the product of cognitive processes. Cognition precedes emotional experience and results in particular emotions depending on the implication of appraisal for the well-being of the individual.

Each object of an attitude is evaluated positively, negatively or neutrally. The assumption underlying the valence models is that feelings are unidimensional and affectively bipolar (i.e. positive feelings are at one end, negative feelings at the other, and neutral feelings in the middle). For example, if someone likes Bill Clinton to some degree, he/she is assumed to have no negative feelings against him logically, since, in this model, it is assumed that positive feeling and negative feeling are opposite concepts on the same dimension.

The tripartite conception of attitudes is gradually being abandoned by psychologists. This is because emotion is coming to be recognized as a

separate mental process from cognition — not the consequences or the evaluation of the cognitive process. For example, Zajonc (1980) has advanced the thesis that two independent systems of evaluation exist: a fast crude, and perhaps predominant, affective system, and a slower, more detailed, cognitive one.

In political science, feeling thermometers¹⁾ which are often used to measure candidate evaluation are the most frequent application of the valence model of affect. In this measurement, ratings between 0 and 50 degrees mean that the voter does not feel favourably and warm toward the candidate and that he/she doesn't care too much for that candidate. Ratings between 50 and 100 degrees mean that the voter feels favourably and warm toward that candidate. The validity of findings that rely on the feeling thermometers is dependent on the assumption that affect has a bipolar one-dimensional structure.

The Discrete Models of Emotion Discrete models of emotion assume that different emotions are identified as "alternative appraisals of events" (Roseman 1984). The number of fundamental emotions differs from one model to another. Davis (1980) identified seven principal affects while Izard (1971, 1977) proposed a 10 fundamental emotions model. Roseman proposed 13 fundamental emotions (Roseman, 1979) and later, 14 fundamental, emotions (Roseman 1984).

Different combinations of motivational states and situational factors present different circumstances, which then, in turn, elicit different interpretations that produce an appropriate emotion. The Circumplex Models of Emotion More recent developments have identified the structure of

affect as having a two-dimensional structure (Plutchik, 1980; Russell, 1980; Zevon and Tellegen, 1982; Marcus, 1988). Theoretically, all affect terms are located orthogonally along two dimensions, with the location varying as a result of the different degrees of arousal on each dimension. The circumplex model resolves the problem of why different studies have reported more than one dimension. Studies that include affect terms that are heavily clustered in different regions of the emotional dimensions and rely on oblique solutions in fact reported three or more dimensions (e. g. Conover and Feldman 1986; Roseman, Abelson, and Ewings 1986). However, reanalyses of studies with multiple oblique factors report results that unambiguously support the two-dimensional model (Watson and Tellegen, 1985).

Abelson and his colleagues (1982) studied the emotional appraisal of candidates, and their results validate the circumplex model (though they do not recognize it as such). In their study, respondents were invited to ascribe personality traits to prominent national politicians as well as to report the feelings that the politicians elicited. They found that summary scores of good and bad feelings are almost independent of each other.

In this article, it is assumed that the structure of emotional responses is composed of two dimensions — positive and negative emotionality. As Ekman et al. (1979) pointed out, the number of dimensions and the connotation of dimension largely vary according to the number of emotions being examined in a test and the aspects of emotion to which investigators refer. Taking into account the fact that items of emotions in NES studies were selected only if assumed to be related to voting tendency, the view of Marcus (1988) that the structure of emotional response is composed of two dimensions of positive and negative feelings is acceptable, at least in the study of voting.

Firstly, it is examined whether the emotional

 ^{1) 1984} American National Election Study (NES) lists 50 feeling thermometers, including 18 feeling thermometers on political figures.

responses can be grouped into two dimensions – positive and negative emotionality. From the discrete model's perspective, the number of emotional dimensions are examined with factor analysis.

Secondly, influences of each emotional dimension on evaluation are compared between East and West.

METHOD

Samples The data of the 1988 American National Election Studies (NES) are used. There were 2, 040 respondents selected from person-to-person interviews with citizens of voting age. Multistage area probability design was employed for the sampling. Eight four primary areas were selected with probability proportionate to population. Within each of the designated primary areas, the geographic areas are divided and subdivided through several stages into successively smaller units. By definition and procedure, each household belonged uniquely to one sampling area at each stage. The selection procedure yields a sample of households representative of the nation. Respondents were selected from households by an objective procedure which allows no substitutions.

For Korean data, 595 respondents were selected according to the probability sampling procedure from 1st July to 14th July in 1990. Respondents were selected in Kwangju city. First, 595 respondents were allocated to five broad administrative districts (KU) and then reallocated to each smaller administrative zone (Dong) according to the population ratio. The exact address was selected at random. Data were collected by means of an interview based on the questionnaire. In terms of basic demography, this sample represents the national adult population reasonably well, showing proper distributions of sex, age, and education.

Measures In order to compare the influence of positive and of negative emotions on forming judgements between East and West, the same Affect Checklist Scale being used in NES studies is employed. For use in the National Electional Survey in America, Abelson et al. (1982) developed new approaches to the assessment of citizens' appraisals of presidential candidates. In adopting their inventories, a brief validating study was conducted in Korea to make sure all the items could be clearly understood.

Affect Checklist This scale²⁾ was developed from the perspective of Roseman's discrete model (multi-dimensional model). The respondents were told "Now I want to ask you about [candidate]. Think about your feelings when I mention [candidate]". Respondents were then asked about the presidential candidates whether "something about that person, or something that he has done has made you have certain feelings like anger? " pride?". Subjects then reported whether they had ever felt that emotion, through a list of six discrete emotions(angry, hopeful, afraid of him, proud, disgusted, sympathetic towards him). For each affect term, the interviewer recorded a simple "yes" or "no" response.

Overall candidate evaluation One of the purposes is to see the influence of each affect dimension on overall candidate evaluation. Overall candidate evaluation is measured by a 100-point 'thermometer scale', a device long used by National

²⁾ The affect Checklist went through several stages of refiment by Abelson et al (1982). An overall set of affect terms was selected to represent the basic possibilities in Roseman's structural theory of emotion. After a preliminary feasibility test, the list of affects was pruned down to the 12 most informative terms; afraid, angry, disgusted, disliking, frustrated, sad, uneasy, happy, hopeful, liking, proud, sympathetic. Some that were eliminated, such as 'make me guilty' were simply not common reations to the politicians. From the factor analysis, 7 of the 12 terms survived. During the validity process in Korea, the term 'uneay' was eleiminated.

Election Studies surveys in America. Responses range from 0 degrees(extremely unfavourable) to 100 degrees (extremely favourable) : the respondent is asked to give a number for each candidate corresponding to the relative degree of favourability or unfavourability felt toward him. Analysis VI.1. The Structure of Emotional Responses Until and unless the structure of emotional response is clarified, how feelings interact with cognition and how feelings influence political behaviour will remain obscure. Accordingly, clarifying the structure of emotion is aimed at first. More precisely, it is hoped to see whether the emotional responses in Korea are structured as Marcus(1988) believed, and if so, which emotional responses belong to each dimension. From the discrete model's perspective, numbers of emotional dimensions are exexamined. Factor Analyses are conducted for both former Korean-Presidency candidates - Taewoo Roh and Taejung Kim.

RESULTS

Research on the structure of emotional responses

The number of dimensions are measured at the point of eigen value 1.0. As listed in Tables 1 & 2, only two factors were over eigenvalue 1.0 for both

Table 1. Number of Factors of Emotional Response : Taewoo Roh

Variable	Commu- nality	*	Fac- tor	Eigen- value	
ANGRY	. 553	*	1	2.790	
HOPEFUL	.701	*	2	1.213	
AFRAID	. 644	*			
SYMPATHETIC	. 689	*			
PROUD	. 794	*			
DISGUSTED	.624	*			

Table 2. Number of Factors of Emotional Response: Daejung Kim

Variable	Commu- nality	*	Fac- tor	Figen- value	
ANGRY	.618	*	1	2.705	
HOPEFUL	. 657	*	2	1.297	
AFRAID	. 732	*			
SYMPATHETIC	. 528	*			
PROUD	. 756	*			
DISGUSTED	. 710	*			

candidates and the third eigenvalue was well below 1.00 (.72 and .66 for Mr. Roh and Mr. Kim respectively). As we can see in Table VI.3, variables are clearly clustered into two factors for both candidates; the positive emotion group (hopeful, sympathetic, proud) and the negative emotion group (angry, afraid, disgusted). These results validate the view of the circumplex model that emotional responses can be grouped into two—the positive emotionality and the negative emotionality.

Figures 1 and 2 represent the results of factor analysis with varimax rotation and Figures 3 and 4 represent factor analysis with oblique rotation for former front-runners, Taewoo Roh and Daejung Kim. Only two factors³¹ emerged by either varimax rotation or oblique rotation. All affect terms were well clustered into two regions. The two dimensions can be grouped into positive emotionality and negative emotionality. These results validate the circumplex model and contradict the idea of valence model and of the discrete

³⁾ For Roh Taewoo, the first factor has an eigen value of 2.97 and the second factor has an eigen value of 1.21; together the factors account for 66.7% of the variance. For Daejung Kim, the first factor has an eigen value of 2.70 and the secong factor has an eigen value of 1.29; together the factors account for 66.7% of the variance. In each case the third eigenvalue was well below 1.0(.72 and .66 respectively).

Table 3. Pattern Matrix

	Taewoo Roh		Daejung Kim		
	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	
PROUD	. 887	.012	. 880	041	
HOPEFUL	. 838	002	. 823	047	
SYMPATHETIC	.827	.009	. 672	.144	
AFRAID	. 060	.781	. 153	.798	
ANGRY	144	. 777	183	.820	
DISGUSTED	. 226	.687	.172	.776	

model. The valence and discrete models suggest that people feel either positive or negative feelings, but not both (i.e. affect dimensions would be bipolar rather than unipolar). The above results clearly demonstrated that people could have both feelings because emotion is structured along two unipolar dimensions. Thus, studies designed from a discrete model perspective, using measures intended to demonstrate the distinct influences of each primary emotion, have found, to the contrary, two dimensions of affect — positive and negative.

Research on the influences of each dimension on overall evaluation

Markus and Kitayama (1991) suggested that for those people with a more independent self, positive emotional expressions are more frequently used in public in order to maintain interpersonal harmony, while intense experiences of negative emotion such as anger are less frequently used. Thus, they argued that positive emotion exerts a stronger influence on forming judgements in the East. In this analysis, the influence of positive and negative emotion are compared between East and West.

In Analysis 1, it was found that emotional responses could be categorized into two dimensions. The dimension of positive emotionality involved: hopeful, sympathetic, proud while negative emotionality consisted of angry, afraid, disgusted. In order to measure the influence of each dimension on overall candidate evaluations, all those emotional responses which belong to each dimension are simply added up.

Regression analyses are conducted to predict overall candidate evaluations with each dimension and the standard coefficients of regression equations are compared.

Table 4 shows that positive emotionality exerts a stronger influence than negative emotionality on candidate evaluation for all candidates (significant differences are found between 'positive' and 'negative' at p=.05 except T.Roh). Evidence that, as Markus and Kitayama (1991) believed, positive emotionality exerts a stronger influence on judgement in the East, is nowhere found.

Attention should be drawn to the R squares of each dimension in the two countries. For American candidates, the R square of positive emotionality was .37 while that of negative emotionality turned out to be .19 on average. For Korean candidates in contrast, the R square of positive emotionality was .13 while that of negative emotionality turned out to be .07 on average. The explained variances by each emotional dimension in evaluation of American candidates are much greater than that of Korean candidates.

Table 4. Compatisons of positive and negative emotion on overall candidate emotion between Korea and America

		ВЕТА	SD	R SQUARE	N
Bush POSITIVE	POSITIVE	.61	.84	.37	1955
	NEGATIVE	43	. 65	.18	1959
Dukakis	POSITIVE	. 59	.83	. 35	1925
	NEGATIVE	45	.71	.21	1934
	POSITIVE	.24	. 47	.06	438
	NEGATIVE	18	. 72	. 03	437
	POSITIVE	. 45	.80	. 20	437
	NEGATIVE	34	.57	.11	433

POSITIVE; The dimension of positive emotionality, NEGATIVE; The dimension of negative emotionality

These results indicate the cultural differences in scale validity. That is, in Korea, there seems a need to develop particular scales to measure influence of emotions which can reflect Korean culture, and in detail, the people's self-concepts.

The correlations between positive and negative emotion were to be very low in both countries (.-. 22 for both candidates in America, -.02 for Mr. Roh and -.09 for Mr Kim in Korea). These results support Abelson et al's findings in 1982 that positive emotion and negative emotion are nearly independent of each other, thus providing more evidence to validate the circumplex model. Because of belief that positive and negative emotion (Marcus, 1988) are the opposite of each other, we may expect high negative correlations between these two kinds of emotions. However, very low correlations are reported between positive and negative emotionality. These show independence between the two emotionalities.

SUMMARY AND DISCUSSION

As a brief conclusion, the structure of emotion

has been identified as having a two dimensional structure; that is, emotional responses were clearly clustered into two dimensions which were orthogonal. Two dimensions are generally identified as positive and negative emotionality. These results demonstrate that whatever emotional responses are elicited by any information (cognition), such responses can be grouped into either positive emotionality or egative emotionality.

The above findings resolved the problems which had been perplexing researchers faced by positive and negative feelings reported at the same time. So far, it has been a common belief that positive emotion is the opposite of negative emotion, and so it was believed that positive feeling is located at the one end and negative feeling at the other within one dimension. This supposition caused researchers to be perplexed when positive and negative emotions were reported simultaneously. By clarifying the structure of emotion in stressing that there are two dimensions in emotional responses, we attained a theoretical basis for understanding the phenomena of reporting good and bad feelings at the same time.

Reporting the good and bad feelings towards the candidate simultaneously seems quite natural when the candidate is a well-known person. People might support one of the policies which the candidate has taken, but not others. In that circumstance, and probably most other cases, a voter might feel delight at the policy which he supports and might hold bad feelings toward his rejected policy. Within this context, if we pose a question, as Abelson et al and I did, as to whether something about that person, or something about what he has done has made you have a certain feeling like Anger? ··· Pride?, both good and bad feelings can be reported quite naturally.

In this article, through the factor analyses, it is revealed that the structure of emotional responses is composed of two dimensions - positive and negative emotionality. The problem is that, as Ekman et al. (1979) pointed out, the number and annotation of dimensions vary largely according to the number of emotions being examined in the test and the aspects of emotion to which investigators refer. The other point is that, if scales relevant to other aspects of emotion had been included, other dimensions might well have emerged. Taking into account the fact that items of emotions in NES studies were selected only if they were assumed to be related with vote tendency, care should be taken when we generalize the findings to other fields of voting research.

In the second analysis, the influences of each dimension on whole evaluation were compared. The result suggests that positive emotion is the more potent consideration influencing the disposition to vote for a candidate — though negative emotion is also a powerful factor. That is not surprising in the light of the frequent use of "negative campaigning".

The evidence that there are cultural differences between the effect of positive emotion and of negative emotion was not found. On the other hand, differences in the amount of variance explained with those emotionalities between two countries were found. This result seems to indicate the need to developing particular scales which fit to the self concept they hold.

In another result, it was shown that the correlations between positive and negative emotion were very low in both countries. These results support Abelson et al's findings in 1982 that positive and negative emotion are nearly independent of each other. All of which provides further good evidence to validate the circumplex model.

In rejecting the beliefs of valence models, the question has arisen Is affect no longer a synonymous of evaluation? In the classical study of attitudes, they were composed of three dimensions: affect, behavioral disposition, and cognition. Affect and evaluation were treated as synonymous (Fishbein and Aizen 1975), and this belief was the basis of the valence model. In this view, emotion was assumed to be the result of cognition process. Fundamentally, cognition precedes emotional experience and results in particular emotions depending on the implication of appraisal for the well-being of an individual. In the sense that emotion is constructed with two dimensions, it is difficult to accept the valence model's view in which emotion and evaluation are synonymous. It can be inferred that cognition elicits either positive emotion or negative emotion, and for each of these emotional responses will contribute to building the overall evaluation. That is, emotion is a quite independent concept from evaluation and it is assumed to serve as a precondition for making an overall evaluation.

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정서 반응의 구조와 영향: 한국, 미국간 비교 연구

최 홍 국

옥스포드대학

정서가 의사결정에 미치는 영향에 대한 최근 연구들은 정서반응의 구조는 정적 정서와 부적 정서로 나누어 질 수 있다고 주장하고 있다. 이같은 주장은 정서의 구조를 일차원(uni-dimension)으로 보는 견해와 다차원(multi-dimensions)으로 주장하는 기존의 학술 논쟁에 또다른 시각을 제공한 것이다. 본 연구의 일차적인 목표는 정서반응의 구조 파악과 구조간의 관 계를 투표행동과 관련하여 규명하고, 각각의 차원들이 의사결정에 어 떻게 영향을 미치는지를 파악하는데 두었다. 그간의 국제 문화 비교연구에서는 동양과 서양은 각각 다른 형태 의 주된 자아개념을 형성하고 있다고 주장한다. 구체적으로 동양권에 서는 인적 조화를 중요시한 상호간 자아개념 (interpersonal self-concept)이 행동의 규범이 되며 서양에서는 개인적 이익이나 감정을 중요시한 주관적 자아개념 (independent self-concept)이 행동과 문화의 규범이 된다고 주장한다. 본 연구에서는 이와 같이 동서양간에 각각 다른 주된 자아개념을 갖고 있다는 전제하에 정서 반응의 각 차원들이 어떻게 영향을 미치는지 비교 분석하였다. 본 연구의 데이타는 1988년 미국 대통령 선거와 1987년 한국 대통령 선거때 수집되었다. 본 연구의결과에 따르면, 정서 반응은 정적인 정서와 부적 정서의 두차원으로 나누어지며 이 두차원은 정-부의 연속선상의 한차원이 아니라 서로 독립적인 것으로 나타났다. 각 정서차원의 영향은 동서 간에 영향력의 정도 차이가 있을 뿐이며 두지역 모두에서 두 차원은 서로 독립적임을 보이고 있다.