# Measuring Emotional Responses:
# A Proposal to the National Elections Studies Board of Overseers

**By**


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When campaign professionals, not political scientists but pollsters and media consultants, talk about moving the electorate they talk about emotions. Rather than convince or persuade voters, they elicit emotional reactions. As this is the reality of (successful) practitioners, we as political scientists should be ready to explore its theoretical and empirical implications.

Political scientists have also recognized that it is important to find out when and why voters are, say, angry, or apathetic. Political emotion is important in its own right. However, the study of political emotion has importance for other reasons as well. For we all recognize that provoking voters' emotional reactions has a wide array of political consequences. Since 1980 the ANES surveys have relied on two methodologies to assess emotional reactions. The array of seven emotional terms ("have you ever felt angry...") and the widely used feeling thermometers have been used to enable respondents to designate how a political candidate makes them feel. By using the current array of NES candidate focused measures of emotional response, we have also begun to learn quite a lot about how candidates emotional responses influence a wide array of political behaviors. Moreover, we have begun to demonstrate that emotional responses do have quite distinct and quite powerful effects. Although all may not accept the specific theoretical formulations we have relied upon, and which we will not present here, we can summarize the principal findings to date in Table 1, below.[1]

[1]We have appended our most recent theoretical exposition (Marcus, Neuman, MacKuen, & Sullivan, forthcoming) for those who may wish to review the theoretical underpinnings of our work.

**Political Behavioral Influence by Moods along the Enthusiasm and Depression Axis (the Behavioral Activation System):**

• Principal mood influencing candidate preferences (Marcus, 1988; Marcus & MacKuen, 1993). People choose the candidate that makes them feel more enthusiastic.

• Principal mood influencing the level of mobilization (Marcus & MacKuen, 1993). Greater enthusiasm generated by the candidates increases interest in the campaign.

**Political Behavioral Influence by Moods along the Anxiety and Reassurance Axis (the Behavioral Inhibition System):**

• Modest to non-existant influence on candidate preferences (Marcus, 1988; Marcus & MacKuen, 1993). In some elections, but not in others, people tend to choose the candidate that makes them less nervous.

• Principal mood influencing learning in a political campaign (Marcus & MacKuen, 1993). Greater anxiety generated by the candidates increases knowledge of where the candidates stand on the issues.

• Principal mood that modulates reliance on prior habits of making political choices (Marcus & MacKuen, 1993). Greater anxiety generated by the candidates decreases reliance on partisanship as the basis of political preference and increases reliance on contemporary mood of comparative enthusiasm.

Table 1: The distinct effects of the BAS and BIS mood systems on Political Behavior

What is not conveyed by the descriptive outline presented in Table 1 is how substantially robust are these relationships. It is auspicious that in such little time, just about a decade, the study of political emotion using quantitative approaches has been so fruitful. However, while very promising, we think even more can be gained by revising the current array of measures used to assay candidate elicited emotion responses.

In this memorandum, we should like to suggest pathways to measure voters' emotional reactions to campaigns and candidates. It is our belief that better, that is to say theoretically

informed and richer, measurements will allow considerable exploration of the emotional side of the political equation. We expect to see opportunities to elaborate our understanding of different sorts of emotional reactions themselves, to assess and compare emotional reactions to different sorts of political stimuli, and to outline the connections between emotional reactions and the cognitive judgments with which we are already familiar.

Here we review prior work so that we can suggest critical considerations that ought to inform the discussion of new instruments to measure emotional response. First, we quickly recapitulate the literature on the dimensional structure of emotional response. Then we review our own survey experiments with measurement scales so that we can proceed with some further empirical understanding of the measurement issues. Third, we present the argument for an expanded range of emotional response measures—beyond those typically under consideration. Finally, we suggest some specific recommendations—or at least points of discussion. We believe that if this process is successful it will better enable scholars to explore affect and its consequences and will strengthen our understanding of how affect and cognition interact in political judgment.

We turn first to the current state of affairs so that we can suggest critical considerations that ought to inform the discussion of new instruments to measure emotional response.

## Current Research on the Structure of Emotional Response

When the current instrumentation was adopted, the theoretical basis was drawn from the work of psychologists who had adopted a "discrete" model of emotionality (Davies, 1980; Izard, 1992; Izard, Dougherty, & Hembree, 1983; Roseman, 1979; Roseman, 1984). Such an approach viewed different emotions as, in some way, basic—each having distinct cognitive and motivational properties. Although literally hundreds of terms for moods have been identified, these "basic" emotions were thought sufficiently central or powerful that a very limited number of emotional terms (those for the "basic" emotions) could be selected for study. It was on this basis that the core affect terms were selected: anger, afraid, hope, etc. Further, because these terms were presumed to

have durable impact, we have the current phrasing of the instruments, "has [candidate]... ever made you feel [target affect]?"

In the intervening years, indeed beginning just about the time the current NES instrumentation was adopted (1980), work on the structure of emotional response moved in a different direction (Plutchik, 1980; Russell, 1980). Rather than seeing affect as discrete moods, the dominant view now uses a circumplex model to depict affective reactions. (The literature on this is now voluminous. For prominent examples, see (Almagor & Ben-Porath, 1989; Kern, 1989; Mauro, Sato, & Tucker, 1992; Mayer & Gaschke, 1988; Russell & Bullock, 1985; Russell, Lewicka, & Niit, 1989a; Watson, Clark, & Tellegen, 1984). For a review, see (Marcus, 1991). Similar findings have found their way in research on the emotional response to political candidates (Abelson, Kinder, Peters, & Fiske, 1982; Bruce, 1991; Marcus, 1988; Masters & Sullivan, 1989; Sullivan & Masters, 1988). The new understanding is that emotional reactions may be seen as a composite of underlying fundamentals and that those composites may be represented on a circumplex or a two-dimensional space.[2]

[2]Green, Goldman, and Salovey (1993) have weighed in on the "valence" side of the argument. Their methodological point is surely correct: positively-correlated measurement error will dampen negative "true" correlations. They find that "happy" and "sad" are in fact polar opposites. This substantive finding is entirely consistent with the circumplex representation. As it happens, "happy" and "sad" *are* polar opposites on the circumplex. In our measurement experiments (see below) we have attempted ways to avoid these measurement artifacts by instrument design rather than post hoc assumption and analysis. The recent work by Green and his colleagues, however, push us firmly in the direction of improving measurement if we are to settle theoretical disputes and go forward.

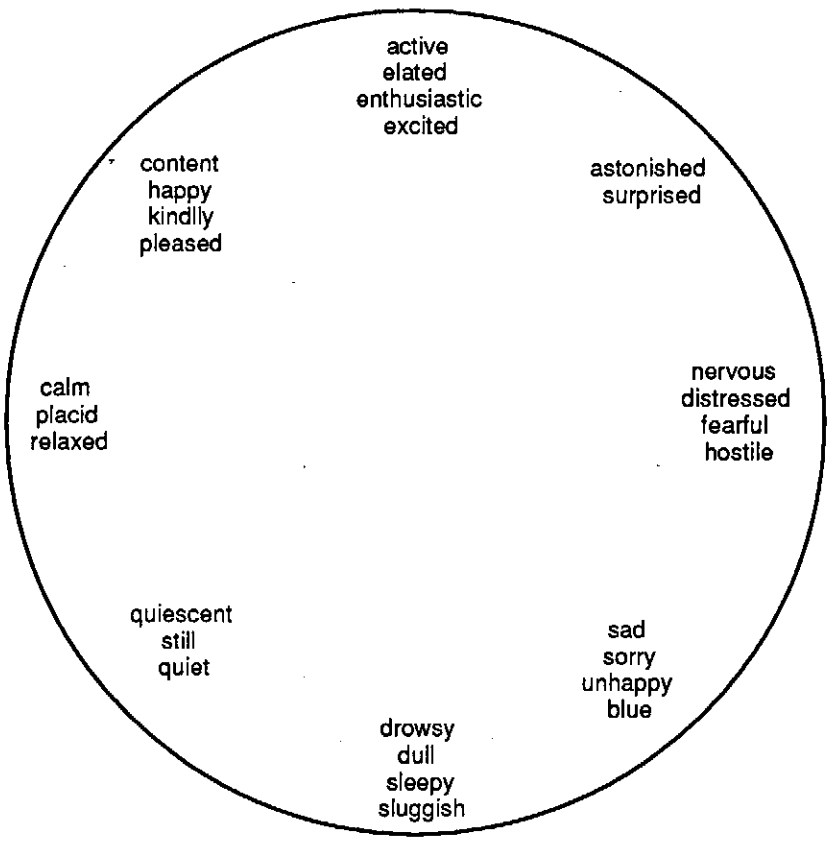


Figure 1: Typical representation of the Circumplex (adapted from Watson, 1985)

In Figure 1 we present a typical view of the circumplex. Note that we observe paired opposites such as "nervous-calm" or "enthusiastic-dull" as items directly across the circle from each other. Note also that various positive emotions find themselves closer to each other than their opposite negative emotions—but that each positive and each negative emotion can be distinguished from the others. The fundamental point, though, exists quite apart from the specifics of this (or any) circumplex or two-dimensional representation: each emotional response represents an amalgam of more elementary components with the mixture producing the mood for which we have developed a verbal label.

One consequence of this theoretical shift is that it is no longer necessary to justify some moods as basic (and worthy of study) as against all the other moods that might be recommended

by one scholar or another. Two dimensions, and hence two instruments, are sufficient to reconstruct a circumplex and to depict any specific mood response. Thus, from our theoretical perspective, "enthusiastic - unenthusiastic" and "anxious - calm" are the preferred instruments, we can use such instruments to distinguish such emotions as anger (which would be revealed by scores of high enthusiasm and high anxiety) from fear (which would be revealed by scores of low enthusiasm and high anxiety). Happily, as it turns out, the affect terms used by NES, though not designed for this theoretical approach, have been adequate for cobbling together rough measures and doing elementary explorations (as we have done for Marcus 1988 and Marcus & MacKuen 1993). The "positive" and "negative" scales have proven to be replicated in each of the NES studies that contain the affect terms since their inclusion (in addition to our work, see Bruce 1991).

Knowing that affect is two-dimensional, however, does not produce a theoretical description. We *can* now reject the "unidimensional" or simple "valence" model that assumes all emotions are some sort of reflection of "good" v. "bad." However, the two-dimensional space can represent the combination of different factors. Our own previous work has focused on how the two-space can be generated by a combination of alert-mechanisms and engagement-mechanisms (or, in English, anxiety and enthusiasm). However, the same space can (at least logically) be generated by other combinations of underlying components. Mechanically, it could result from some sort of "positive" and "negative" composite—with the theoretical arguments for such a composite varying across the map. More interesting is the older (though now less widely accepted) notion that emotion represents a single (positive-negative) valence component and an arousal component. (This position is typically associated with Diener & Emmons, 1985; Lang, Bradley, & Cuthbert, 1990; Lang, Greenwald, Bradley, & O., 1993; Larsen & Diener, 1992; Russell, 1980; Russell, Weiss, & Mendelsohn, 1989b). For a recent revival of this point for political affect, see Gillespie (1994).)

The dimensionality of emotional response is important beyond its descriptive capacity. At root is the very nature of emotions and their role in political life. When emotions were understood to be mere valence measures, they could largely be ignored as manifestations of "preference" rather

than as markers for more interesting mechanisms that had lives of their own. Allowing for multidimensionality encourages a search for complexity in generating mechanisms, and for complexity in the relationship between emotional processing and political experience.

Our own particular contributions to this understanding lie in two areas. First, we (Marcus 1988) showed that Enthusiasm and Anxiety are elicited by two different sorts of candidate characteristics and that they have distinguishable effects on vote choice. It appears that the elections of 1984 and 1988 turned on comparative Enthusiasm rather than on comparative Anxiety (contrary to some of the then conventional wisdom). Second, we (Marcus & MacKuen 1993) suggested that Enthusiasm and Anxiety play different roles in motivating political involvement. As we noted in Table 1 (above) people who are anxious about the political world are more likely to learn about the political environment and, separately, people who are more enthusiastic are more likely to engage in activist campaign activities. While these results are helpful, they are not the last word but instead markers pointing the direction for further work. The full importance of emotions for politics is, of course, not fully appreciated.

These matters will not be resolved by theoretical argument. Instead they require empirical work, most particularly work on refining and enriching measurement.

We have been guided in our efforts to develop new instruments of candidate-evoked emotional response by the following considerations:

(1) We wish to move from dichotomous response options to increase the range of response options (to enhance measurement precision, enlarge the meaningful variance in responses, and to allow the use of more advanced statistical methods).

(2) We wish to enable researchers to conduct reliability assessments (using multiple measures) to avoid the distortions in relationships from using less than perfectly reliable instruments.[3]

[3]We often assume that less than perfect reliability in measures has consequences in our analyses that can be easily accepted. While it is true that in simple bivariate analyses less the perfect reliability in the measures underestimates the relationship between concepts, matters are not so simple in more complex models, especially when the dependent variables are also less than perfectly measured (Rigdon, 1994).

(3) We wish to develop instruments that are theoretically justified—that is, justified by theoretical models of emotional response.

(4) We wish to develop instruments that can replace the current set of measures with the same or fewer numbers of instruments.

(5) We wish to develop instruments that can replace the current set of measures with minimal loss of information resulting from such a change.

## Some Survey Experimentation

Over the last few years, we have taken the opportunity to conduct some elementary experimentation. First, we developed and tested a modified Feeling Thermometer in order to assess the degree of emotional involvement and to separate out the lack of anxiety or enthusiasm from the respondents' inclination to pick a "null-response" in lieu of saying no opinion. Second, we also tested the directional wording of the question format and found significant effects. Finally, in order to test the robustness of the measures, we experimented with Likert-scale and seven-point scale versions of the prompt.

### A Modified Feeling Thermometer

In an exploratory effort, we conducted a survey experiment using three cross-sectional surveys administered to Missouri voters during the 1988 Presidential campaign. In that work, we devised novel measures of affect using a modified form of the traditional Feeling Thermometer, modified so that it might reflect a two-dimensional structure in affect.

The first step was the selection of mood terms, or "markers." This is especially important when using verbal reports as there over 700 mood terms available in the English language (Storm & Storm, 1987). While earlier studies of mood offered no particular justification for locating axes in the two dimensional space, e.g. (Plutchik, 1980; Russell, 1980), more recent work demonstrated that the location of the axes should be located to distinguish between the operation of two systems of emotional arousal (Gray, 1970; Gray, 1981; Gray, 1985; Gray, 1987; Tellegen, 1985; Watson, 1988; Watson & Clark, 1992; Watson, Clark, & Tellegen, 1988; Watson &

Tellegen, 1985; Zevon & Tellegen, 1982). We chose to pursue a strategy that linked mood to such identifiable (in neuroscience) mechanisms (rather than use a verbal theory as a justification).

One dimension of emotional arousal (let us call it Anxiety) interprets sensory data in order to assess the presence, or absence, of threatening and/or unexpected intrusions. This system of emotional arousal generates moods of anxiety as threat becomes increasingly conspicuous. Feeling calm, placid and secure indicates the absence of threat and feeling apprehensive, fearful or dread indicates the presence of threat. According to Gray's model of anxiety, this system operates to interrupt ongoing activity. The anxiety, or threat, dimension of emotional response serves as an "interrupt system" (Simon, 1967). This arousal system does not control consequent behavior, rather it interrupts ongoing activity devoted to the tasks at hand so as to enable other control systems, cognitive and emotional, to respond. These variations in mood do not dictate responses to threatening stimuli, rather these variations in mood act as a threat alert system that, when triggered, passes the initiative to other control systems. Taken by themselves, variations in moods of anxiety-safety will tell us what sensory information is regarded as threatening and intrusive. This is important in and of itself in as much as politics is inherently partisan and therefore premised on conflicted boundaries between "them" and "us", variously defined.

The second dimension of emotional arousal (Enthusiasm) controls ongoing task management, both individual and social. This system generates moods of enthusiasm as personal tasks and social activity felt to be successful—the focus of feelings can be on contemporary activity, on anticipated tasks, or on activity recalled from memory—and generates moods of depression and melancholy as activity is unable to be successfully mounted. These moods are tightly linked to the repertoire of learned behavior and thus it is this dimension of emotional response that should be most closely related to conventional and routinized political behavior.

For the measurement experiment we developed thermometer-like ratings to tap each of the two dimensions of emotional response, Anxiety and Enthusiasm. Our design has two special features. First, we chose appropriate word "markers" to elicit responses most closely associated with the two dimensions. And second, we distinguished a respondent's having an *absence* of

emotions toward a candidate from the respondent's sense that the candidate was reassuring or depressing.

Accordingly, we presented the respondent with a feeling thermometer anchored by pairs of words connoting threat v. safety or, alternatively, enthusiasm v. depression. In order to obtain a minimal validation test, we chose two pairs for each dimension. The enthusiasm pairs were ("enthusiastic" v. "unenthusiastic") and ("interested" v. "indifferent") and the anxiety pairs were ("upset" v. "comfortable") and ("anxious" v. "safe"). For an Enthusiasm example, consider:

> When we talk to people about the major Presidential candidates, they use different words to describe how they feel about them. For both Vice President Bush and Governor Dukakis, I'd like to read you some pairs of words. For each pair, let's use one for the lowest possible rating and 100 as the highest possible rating.
>
> Let's start with Vice President Bush. Would you say you feel "unenthusiastic" or "enthusiastic" about him? One would be the most unenthusiastic rating and 100 would be the most enthusiastic rating.

We piggy-backed our emotion-thermometer items onto a commercial poll in the state of Missouri during three periods of the 1988 presidential campaign. The first wave, in June, followed the Missouri primary by three months and represents a period of relative calm in the local environment. The second wave, in July, immediately followed the Democratic National Convention and represents the high point for the Dukakis campaign. Finally, the third wave, in late October, measures emotional response at the end of the national campaign.[4]

The first question is whether the Anxiety and Enthusiasm measures hang together. The easy answer is yes. The average[5] within-scale correlation is .80, an indication that the scale items share substantial variance. (For more detail, see the discussion below as well as Marcus and

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[4]The sampling frames represent the Missouri electorate. The samples sizes for June, July, and October were 509, 509, and 502. Interviews were conducted by telephone. Other survey items reported below, unless otherwise noted, were elicited by the standard American National Election Studies question format. Finally, we might have liked to have gone into the field at the very end of the campaign, in early November. Unfortunately, our status as stowaways prevented our steering the ship.

Of course Missouri does not properly represent the nation. Nevertheless, the state contains two major urban areas, is split roughly between Democrats and Republicans, and reflects a national swing toward Republicans as major office holders. It was also a target state for the two 1988 presidential campaigns, thus receiving the full load of candidate and campaign and advertising attention. With the outcome in doubt until the end, Bush squeaked out a narrow victory.

[5] The raw correlations are .82, .80, .81, and .76 for Enthusiasm and Anxiety for Bush and Dukakis respectively. The sample here is a collection of the three cross-sections.

MacKuen 1989, 1993.) The items pass a minimal test—but so do the ANES measures. The new measures need to represent an improvement.

## Emotional Arousal and Non-response

One clear advantage for this format lies in its distinguishing between a emotion of "calm" or "disinterest" from a non-response. This feature becomes apparent in the marginals. Almost all respondents were willing to hazard an "emotional" reaction. Normally, such a willingness masks a good deal of "false" response—people willing to manufacture a response and typically choosing a null category into which they can safely duck. The main problem with the dichotomous ANES measures is that respondents who seek an escape hatch will typically choose the null (or no emotional response) option. We cannot distinguish such a survey-induced "null" response from a genuine "calm" or "unenthusiastic" response. Our modified Feeling Thermometer was intended to show an escape option different from the genuine response—here the neutral option lies at 50 points on the 100 point scale. And, in fact, the 50 score serves as a modal response.[6]

That the device works well can be confirmed when we look at the relationship between the respondents' education or political interest and their emotional reactions. For the ANES items, there exists a strong positive correlation for both education and interest and the average emotional response. In 1980 the correlation between education and the likelihood that the respondent had experienced an emotion about either presidential candidate was 0.38; that between "following politics" and emotional response was 0.31.[7] This pattern suggests that the survey escape artists are choosing the "no emotion" as their out. A similar analysis for the modified Feeling Thermometers

[6] Further, the probability that a respondent will choose a "50" response is associated with education. Those failing to complete High School are significantly more likely to pick 50 than are the rest of the population (about one-third more likely to do so).

[7] This is the 1980 ANES panel. The probability of emotional response is the mean response over seven "emotions" for Carter and Reagan over three waves (a total of 42 items). Here education is measured Grade School, Some High School, High School, Some College, and College. "Follow politics" is an ordinal scale indicating whether the respondent followed politics even when there is no election going on—here measured in January 1980 before the real campaign began.

shows a corresponding correlation of -0.02 between education and emotional response.[8] The better educated are *not* more likely to indicate an emotional response when given the modified Feeling Thermometer options. Thus, the *apparent* arousal component in the ANES emotional response items reveals its true colors: it is a measurement artifact.[9] When we design new emotional response measures we shall want to avoid this pitfall.

## Dimensionality, Dynamics, and Response Set

We also conducted a second, and more subtle, test. We were concerned with how the Anxiety items are to be presented. In particular, we wanted to avoid a "response set" in which individuals merely indicate their candidate preferences. For theoretical reasons, we need to identify how anxiety is different from a more general good/bad dimension. Individuals may take the 0-100 thermometer scores as a generalized "liking"" or "warmth" index. When asked to rate Bush from 0 to 100 on whether he makes one feel "anxious" or "safe" we might expect individuals to translate the task into another good/bad test. However, that confusion is made less likely if the scale is set up 0 to 100 signifying "safe" to "anxious". This reversal forces the respondent to step out of the "response set" unidimensionality and to consider the item on its own. In addition, it places anxiety in a prominent position (anxiety's presence is rated 100, rather than safety's presence as 100). The item more clearly mimics the theoretical structure. If anxiety is something more than the opposite of virtue, then the proper (anxiety prominent) thermometer ought to better reflect our theoretical expectation than the improper (safety prominent) thermometer. Thus, the anxiety items were presented to a random half-sample as either:

> And would you say Bush makes you feel "anxious" or "safe?" Again, one would be the most anxious and 100 would be the most safe. [Safety prominent]

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[8] These are the 1988 Missouri respondents. Emotional response is the average (1-100) Thermometer, both positive and negative for Dukakis and Bush over three waves (a total of 24 items). Again, education is measured in a similar ordinal scale. The surveys did not include a "Follow politics" item.

[9] Thus a measurement issue bears directly, and perhaps decisively, on a theoretical debate. Another way to see the same thing is to notice that the modified Feeling Thermometer encourages "escapees" to select something near the middle of the distribution rather than an end point. Covariance analysis of the scale will thus be less susceptible to the sorts of inference threats associated with "non-random measurement error" as recently explicated by Green and Citrin (1994).

or:

> And would you say Bush makes you feel "safe" or "anxious?" Again, one would be the most safe and 100 would be the most anxious. [Anxiety prominent]

This subtle stimuli reversal proves more potent than we expected.

What do we find when we evaluate the four measures of anxiety? One conventional mode of assessment is principal components analysis of the measures, matching the two enthusiasm measures (1) with the two safety prominent anxiety measures, and then (2) with the two anxiety prominent anxiety measures. Doing so, first for the Bush measures and then for the Dukakis measures generates twelve analyses (four analyses for each of the three cross-sections).

When the anxiety prominent measures are used along with the enthusiasm items, the first eigenvalue, defining the first factor—for the Enthusiasm items—is 2.6 (65.3% of the variance). The second eigenvalue—for the anxiety prominent measures—is .9 (22.6% of the variance). The results suggest that there are two dimensions of emotional response, confirming the results of the many other studies noted above.[10] Replacing the anxiety prominent measures with the safety prominent measures sharply reduces the variance accounted for by a second factor, to an eigenvalue of, on average, .4, (variance explained of 8.4%) and all four measures load very highly on the first factor. Thus, the choice among different measures of emotional response can mask or reveal the two dimensions of emotional response.

Additionally, we evaluate the factor structure of the two dimensions with an oblique solution for the four measures of emotional response (as before, running two analyses, the two enthusiasm items against either the two safety prominent or the two anxiety prominent measures) in each of the three cross sections. The correlation reported between factors in an oblique solution can be readily interpreted as a measure of the degree of orthogonality of the factors—the lower the correlation the more orthogonal, the higher the correlation the more collinear. High correlations between the two factors would support the conventional treatment, as in thermometer scales. Low correlations would support the two dimensional structure approach.

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[10]The ratio of the variance, approximately 2+ to 1, is quite close to that reported in Marcus (1988).

**Measurement Model: Anxiety Prominent – Safety as 0 and Anxiety as 100**

| | Bush | Dukakis |
|---|---|---|
| June | -.37 | -.29 |
| July | -.58 | -.47 |
| October | -.52 | -.48 |

**Measurement Model: Safety Prominent – Anxiety as 0 and Safety as 100**

| | Bush | Dukakis |
|---|---|---|
| June | +.63 | +.67 |
| July | +.70 | +.64 |
| October | +.72 | +.72 |

Table 2: Correlations between Oblique Factors representing Enthusiasm and Anxiety defined by Measures of Emotional Response (1988 Missouri Data Set)

In Table 2 we see the results from the Missouri data. The top panel shows that Enthusiasm and Anxiety are modestly (negatively) correlated. That is, people who are enthusiastic about Bush are only modestly likely to find him non-threatening. Note the "shared variance" of 9 to 25 percent for this panel. This relative independence of the two components is much as would be predicted by theory. In contrast, when the safety prominent Anxiety measures are used instead, as in the lower panel of Table 2, the results are quite different. Now people who are enthusiastic about Bush are also likely to find him reassuring. (The "shared variance" now jumps to the 36-50 percent range.)[11]

Further, notice that the cross-temporal pattern for the two measurement strategies is distinct. The anxiety prominent pattern suggests that people's emotional reactions to Bush and (especially) Dukakis varied with the increasing intensity of the campaign. Early in the campaign, when the candidates were less well known and before many respondents have made a strong commitment to a candidate, the two assessments were more independent while latter in the

[11] Note that when we move between the measurement strategies, we change the "common" variance likely to be generated by a measurement artifact(Green & Citrin, 1994; Green, et al., 1993). The safety-prominent scales encourage respondents to fall into a response set in which they (a) rate their own candidates high and the opponent low and (b) they evince a "positivity bias." The inter-item and inter-factor correlations will thus be artificially boosted. The anxiety-prominent measures will share neither of these eminently plausible measurement-induced artifacts. (The NES items share a "responsiveness" component—one that our 50-point escape hatch has minimized. These anxiety-prominent Feeling Thermometers do share an artificial component for respondent who like high rather than low numbers ...)

campaign period the two assessments became integrated.[12] The safety prominent pattern, alternatively, shows very little change over time. While we do not now understand these dynamics in emotional consistency, we expect that discovering the underlying mechanisms well prove instructive. Almost always it is more useful to study phenomena when they are under manipulation than when they are at complete rest. It is important to notice here that the choice of measurement allows—or forecloses—an opportunity to study these dynamics in emotional consistency.

Thus, emphatically, the measurement strategy matters.

## A Likert Scale Approach

While the modified Feeling Thermometers appeals, we wished to experiment with the question format in order to eliminate the possibility that the "complication" of a 1-100 scale might confuse respondents. Some research indicates that labeled response formats may provide greater reliability (Krosnick & Alwin, 1989), at least for some respondents (Zaller, 1988). Accordingly, we devised two abbreviated formats, the first a labeled Likert scale and the second a "seven-point" scale, and tested them in two surveys: of Massachusetts' voters in the 1990 gubernatorial election, between Silber and Weld and in the just concluded 1994 Senate race between Kennedy and Romney.[13]

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[12] If this interpretation is correct, Independents should show the greatest dynamic swing in the relationship between the two dimensions of emotional response. The two partisans groups, Republican and Democratic voters are likely to have established feelings towards the two principal candidates, both toward their own and to the candidate of the opposition party.

The critical period seems to be the period from June to July (from the first wave to the second wave). For independents, in the June wave, the correlation between the two dimensions of emotional response (using the anxiety prominent measure) are: Bush $r = -.14$ and for Dukakis $r = -.04$. This suggests that the two emotional reactions to Bush and Dukakis had not, as yet, become interrelated. (Note the difference for the relatively unknown Dukakis.) In the July wave, the correlations—among independent voters—dramatically shifted to $r = -.48$ for Bush and $r = -.42$ for Dukakis. This shift would suggest that, after the Democratic convention, independents began to orient their feelings to the two major candidates so as to achieve an emotional consistency—feeling unenthusiastic and anxious about the candidate they oppose and feeling enthusiastic and calm about the candidate they endorse.

[13] This telephone survey sampled 108 voting age residents of Massachusetts in the five days prior to the November election in 1990 and 88 voting age residents in the five days prior to the just completed election. In both instances, the surveys were planned and executed by undergraduates taking a course in political elections. We used telephone samples obtained from Survey Sampling, Inc. and CATI technology. Respondents were interviewed having been selected by the "last birthday" methodology. In both cases, it should be clear, the samples are too small to be relied

The Likert format was:

Enthusiasm Question:

When we talk to people about the major candidates for Governor, they use different words to describe how they feel about them. For both William Weld and John Silber, I'd like to read you some pairs of words. For each pair, tell me if either word describes how you feel. Let's start with William Weld, does he make you feel ENTHUSIASTIC or UNENTHUSIASTIC? [PAUSE for choice] Does he make you feel VERY or only SOMEWHAT [chosen word]?

Anxiety Question:

Now going back to William Weld, how would you say he makes you feel, ANXIOUS or SAFE? [PAUSE for choice] Would you say he makes you feel VERY or only SOMEWHAT [chosen word]?

(Note. A neutral response option was not presented, but was recorded if offered by the respondent. An explicit neutral option can be included.)

The two items for each candidate correlated only modestly. Many respondents felt both "safe" and "unenthusiastic" about Weld (a bland and charming politician) while, in contrast, many felt both "anxious" and "enthusiastic" about Silber (a more imaginative but contentious sort of individual). Further, the correlations accorded with the relative "visibility" of the two candidates: Enthusiasm and Anxiety were more clearly (negatively) correlated for Silber at $r = -.55$ than for Weld at $r = -.31$. Thus, the rather simpler measurement scales behave much as the underlying theory suggests.

We have just completed an experiment with a "seven-point" scale version of the same questions. To wit:

Enthusiasm Question:

When we talk to people about the candidates, they use different words to describe how they feel about them. I'd like to read you some pairs of words. For each pair, let's use one for the lowest possible rating and seven as the highest possible rating. Let's start with Edward Kennedy. How enthusiastic would you say Kennedy makes you feel? One would be very unenthusiastic and seven would be the most enthusiastic rating

Anxiety Question:

Returning back to Edward Kennedy, how Anxious would you say Kennedy makes you feel? Seven would be very anxious and one would be very reassured.

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on for prediction or for rigorous testing of theoretical claims. However, we do feel they are worth using to demonstrate the prospective value of these instruments.

Again, the two items for each candidate correlated only modestly. (Here the Enthusiasm-Anxiety correlations are: Kennedy r = -.42 and Romney r = -.40.) More interesting, many respondents felt both "safe" and "unenthusiastic" about Kennedy (a familiar but, at least to some, pre-historic politician) while, in contrast, many felt both "anxious" and "enthusiastic" about Romney (an untested but enticing political figure). Thus, the seven-point scales behave properly. (We note that these measures, as did our Likert scales and our modified feeling thermometer instruments, generate correlations between the two dimensions that are more orthogonal than are the scales built from the NES instruments.[14])

Further, the seven-point scales produce the principal findings generated by the NES instruments. Table 3, below, shows the singular effect of the enthusiasm instrument on voter preferences.[15]

| Dependent Variable: Vote Preference<br>Independent Variable: | B | SE B | Beta | T |
|---|---|---|---|---|
| ENTHUSIASM | 0.41 | 0.04 | 0.72 | 10.73 |
| ANXIETY | -0.03 | 0.04 | -0.06 | -0.89 |
| PartyID | -0.45 | 0.19 | -0.15 | -2.31 |
| Constant | 3.66 | | | |
| Adjusted R-Square | 0.68 | | | |
| Standard Error | 1.07 | | | |

Table 3: Voter Preference as a function of Candidate Elicited Emotional Response and Partisan Identification.

Thus, as we have shown before (Marcus 1988, and Marcus and MacKuen 1993), voters seem to be strongly influenced to select the candidate that makes them feel more enthusiastic, but not by the level of anxiety they feel. The new items thus replicate the prior findings produced by the modified feeling thermometers and the NES scales.

[14]Space precluded including the standard NES candidate affect measures in these two studies so we must be cautious about this proclamation. We have no *direct* test.

[15]Voter preference is a scale built from two questions. Respondents were asked who they preferred, Kennedy or Romney. Those who responded undecided, where then asked who they leaned to, Kennedy or Romney. Those who remained undecided were coded 3, those who where leaning to Romney, 4, and leaning to Kennedy, 2. The scores of 5 and 1 were assigned to those who indicated their preference for Romney and Kennedy in the initial question. The variables enthusiasm and anxiety are Comparative items, subtracting the Kennedy score from the Romney score in each case. (Due to archiving problems, we are unable to repeat this analysis for the Weld-Silber race.)

In all, we suspect that these simpler Likert and seven-point scales could be made to work well. There is, of course, a tradeoff between the subtlety of measurement and the relative respondent freedom offered in a 0-100 thermometer and the greater reliability and ease of administration offered by the abbreviated-scale format.

## Extending the Range

While we (and others) have been working on people's emotional reactions to candidates, we believe that the real payoff will arise when we extend the analysis beyond personalities. Most of theoretical Political Science aims to connect matters of deeper consequence (that is deeper than the personalities who win and lose elections). If we want truly to elaborate on our understanding about how emotions, and emotional information processing, affect politics, we shall have to explore emotional reactions to political—rather than merely electoral—subjects.

Clearly, we shall want to understand more about how people feel about both the collectivity and about their own lives. Getting a two dimensional reading on the usual "Country on the Right Track" sort of question might help us understand that "good times" are not a simple matter. In fact, the current conventional wisdom about the "mood" of American voters suggests that, while people feel that their efforts are meeting success at the moment, they also feel anxious about the future. This sort of combination of enthusiasm and anxiety suggests a complex view (rather than a simplistic one) and helps understand why the electorate reacts so unpredictably to conventional stimuli. In a time of fair-to-middling prosperity, the political "barroom talk" is one of unquestioned antagonism to political leadership and an eagerness to "throw the rascals out."

Further, we should begin to explore how people react to specific social, economic, and political circumstances. How do people really feel about "going out for entertainment in the evening," or "the security arrangements for [their] home," or their "family's financial situation in the next year," "the amount of control [they] have over their personal lives," or "the ways that [their] children and grandchildren are learning values," or (more vaguely) "the homeless sleeping on air vents," or "young people losing self-discipline," "the role of Churches in American life," or

"Japanese cars dominating the American automobile market?" Surely these matters have cognitive manifestations. However, our suspicion is that they also will resonate emotionally. We should like to explore is the extent to which such emotional resonance corresponds with, or reacts to, or generates the cognitive representations. It seems possible to us that we, as political scientists, have only the most superficial understanding about how people connect their own lives to the broader political arena. It is likely that these connections are more deeply rooted than conscious calculations of self-interest.

Finally, we want to examine emotional reactions to policies and actions. Obvious candidates are: "How do you feel when ..." "the state executes a prisoner under the death penalty," "the national government cuts taxes and increases the national debt," "the government changes health care to try to make things better," "the government guarantees rights to gays in the military and other areas of public life," "American troops go abroad to help people who are treated unfairly or to keep the peace" "national, state, and local laws change welfare so that more poor families are left without financial support" "the government acts to support Christian moral values" and so on.[16] We may find mixed feelings in the emotional reactions, and in so doing we may separate out the simple symbolic referents from those more complex combinations *about which people's feelings are more than mere preferences.* If American politics is a politics of symbolic action, then we ignore the heart of politics when we ignore people's emotional reactions to symbolic actions.

Of course, all these considerations may come into play during a presidential election. They will be particularly relevant to the election outcome when they are explicitly linked to the contenders, either the candidates or the parties. We may, and may not, want to use as prompts candidate-related policy proposals or "campaign issues" that arise during the course of events. In any case, it is likely that the connections between candidate, party, issues, and policy are interlaced with emotions. We have recently (1994) shown that people's cognitive judgments about candidate character and policy stances are dynamically related to changes in their emotional responses

[16] These are guesses about what might be politically relevant in the next few years. Further thought might be helpful here.

(though we cannot conclusively determine which drives which). It seem likely to us that emotions are much more than a mere coloration of cognition—though of course this is a matter than needs serious study (and serious measurement).

Our ability to do so will depend on the specificity of the symbols used to elicit emotional response. On the one hand, we shall want to select items that are concrete, fixed in meaningful context and time. On the other, we shall want items that have meaning for most (if not all) of our respondents. Further, the utility of measuring these emotional responses for the wider range of political scientists will depend on how they correspond to different substantive areas of interest. We may have to consider tradeoffs between the goals of widespread applicability and context-centered meaningfulness.

In the end, we shall want seriously to consider expanding the range of emotional measures to cover matters of public life, public policy, and public symbolism in order to extend the range of our knowledge and to extend the range of political scientists who will find the instrument helpful for their work. As these matters undergird the fundamental shift in American politics that we now observe, we shall want to pay careful attention to the crafting of these measures with an eye toward the future as well as the present.

## Some Thoughts about Design

We believe that the current state of knowledge supports the following five recommendations regarding instrumentation:

1. In social psychology there remain two views within the circumplex consensus. The first (which we have used) posits two distinct affect systems and the second holds that affect results from a combination of arousal and valence. The two approaches differ in where to locate the two orthogonal axes in the circumplex. We believe that it is both possible and imperative that the final selection of measures include target affects that are suitable for the use by scholars of both approaches.
2. We recommend that two pairs of instruments be used to measure each of the two axes of the circumplex. Having two instruments would enable reliability estimates to be calculated and would enable structural equation modeling techniques to be used. Since there are two

current approaches to locating the axes within the circumplex (the approach/threat model we have found most useful and the arousal/valence model others have found useful), this would require 8 instruments per candidate. Since current instrumentation also uses eight measures (the seven affect terms plus the feeling thermometer), this would proposed change would not require any additional measures.

3. We also recommend that mood measures use interval (or at least ordinal) rather than dichotomous response formats. The issue of measurement should be how to measure the level of emotional response, not whether or not a particular emotion has been experienced. In addition, we want to distinguish between a total lack of emotional resonance (as might be expected of apoliticals) from emotions such as calm or boredom. Our elementary explorations show that these matters can be handled by good measurement strategy. About whether the instruments take on the form of labeled Likert scales or seven-point scales or revised Affect Thermometers we remain agnostic. We find that all these formats work, and produce results both consistent with theoretical requirements and the current NES instruments. The tradeoff seems one between efficiency and effectiveness.[17] Measurement makes a difference—as we have seen above. At the least, this recommendation concerns ordinary measurement theory. More telling, it may help distinguish between theoretical paradigms.
4. We also recommend that mood measures use the current or recent time frame as the reference. As we report in our 1993 *APSR* article and 1994 *APSA* paper, panel data show that moods shift over the course of a campaign period and that contemporary mood reflects both prior mood and current "events." [18]
5. Further, we suggest that we measure affective reactions not only to the candidates as single stimuli (say Clinton, Dole, Gramm or Limbaugh) but also to specific social and economic situations and political policies and symbols. Having measures of the emotional side of the usual political scientific paradigm will allow the community to sketch out the connections between people's cognitive and emotional experiences.

Whether these recommendations are adopted or not, we believe they should provide a point for lively deliberation and careful study. We expect that the discipline will want to begin thinking again more deeply about how the emotional and cognitive sides of politics fit together. To proceed, we need measurement.

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[17] When we consider multiplying the measures over symbols or policies, then efficiency will loom large.
[18] Others have begun to extend and profitably apply this approach (Rahn & Kite, 1994)

We hope that the ultimate result of this deliberation will be the inclusion of a set of affective response measures that prove to be even more useful than the current versions and also prove to be interesting for an increasing number of scholars pursuing very different theoretical matters. It is this joining-together of political psychology and the broader scope of political science that seems particularly exciting. When we extend the range of our measurement instruments, we shall extend the range of our understanding. This is our real goal.

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