CANDIDATE PREFERENCES IN THE MASS PUBLIC:

SOURCES OF STABILITY AND CHANGE

DURING A PRESIDENTIAL CAMPAIGN

William G. Jacoby
University of South Carolina
Spring, 1991

Prepared for Presentation at the 1991 Annual Meetings
of the Midwest Political Science Association.
Chicago, Illinois: April 18-20, 1991

"A political campaign is an attempt to get information to voters that will persuade them to elect a candidate or not elect an opponent (Salmore and Salmore, 1985)." This statement provides an adequate description of the role that campaigns are supposed to play in American electoral politics. Whether they actually do so or not is a very different matter. Certainly, the candidates and their organizations believe that campaigns are an effective and necessary strategy for electoral success. After all, that belief is the only way to rationalize the massive expenditures of time, energy, money, and other resources that are involved in any serious bids for major public offices. But, social scientific research often points to a very different conclusion-- one that minimizes the effects of political campaigns on voters' preferences. From the earliest studies of opinion change during presidential campaigns (Lazarsfeld, Berelson, and Gaudet, 1948) up to recent spatial models of voting (Poole and Rosenthal, 1984), the same conclusion seems to emerge: Citizens' candidate preferences are largely insulated from the persuasive messages transmitted by parties and candidates during campaigns. Of course, there are a variety of studies that examine mass political behavior during campaigns (e.g. Abramowitz, 1987; Bartels, 1985; 1988; Norrander, 1986; Patterson, 1980). But, none of these analyses really focus on temporal variability among individual-level candidate prferences. Therefore, the question remains: Do political campaigns have any effect on public opinion about the candidates?

In this paper, I will address the preceding question by examining citizens' preferential choices among presidential candidates over the course of the 1980 election campaign. The "conventional wisdom" drawn from empirical research in the social sciences holds that campaigns have very little, if any, effect on public opinion. If so, then there should not be much change in citizens' expressed candidate preferences. However, it is relatively easy to demonstrate

that a substantial amount of change does take place. It is a more difficult task to explicate the nature of, and reasons for the observed changes. The present study has exactly that objective. In the analysis below, I will use an empirical spatial model to test several alternative hypotheses about stability and change in citizens' preferences among the 1980 presidential candidates. The empirical results show that most of the variability in candidate choices is due to change in the electoral environment facing the mass public. It is not primarily a result of individual-level characteristics, such as political involvement, media exposure, or partisanship. These findings have a variety of important implications for prominent theories of mass political behavior.

Measuring Citizens' Preferential Choices

Any study of individual-level opinion change must rely on repeated measures, obtained from the same set of survey respondents. Therefore, the data for this analysis are taken from the Major Panel Component of the 1980 CPS American National Election Study. This is the most recent national panel study that: (1) is widely available; (2) spans a presidential election campaign; and (3) contains the items necessary for conducting the analysis. A representative cross-section of the American electorate was interviewed at four time points in 1980. In the three pre-election panel waves (January, June, and September), the survey respondents were asked to evaluate a series of presidential and vice-presidential candidates on the familiar feeling thermometer scales. The analysis will focus on eleven of the candidates: Carter, Reagan, Anderson, Kennedy, Mondale, Bush, Ford, Baker, Dole, Brown, and Connally.[1] For most of these candidates, feeling thermometer responses were obtained in all three panel waves. The exceptions are Anderson (who was not included in the first wave) and Baker (who was dropped from the third wave).

At each time point, t, each citizen, v, is characterized by a vector of feeling thermometer responses, $E_{v,t}$, with elements $e_{iv,t}$. If $e_{iv,t} > e_{jv,t}$ then person v prefers candidate i over candidate j at time t. Now, if it happens that $e_{iv,t} > e_{jv,t}$ and $e_{iv,t+1} < e_{jv,t+1}$, then a change has occurred in this person's preferential choice between these two candidates. Empirically, a substantial amount of this kind of change does occur over the three waves of the panel. From January to June, 35 percent of the total preferential choices (i.e. across candidate pairs and across respondents) change, while the comparable figure is 33 percent for June to September. Thus, the data immediately contradict the admittedly simplistic assertion that <u>nothing</u> happens to public opinion, during a presidential campaign.

There are at least two different sources for the observed changes in preferences. First, they may be due to the characteristics of individual citizens. It is often reported that the people most likely to change are those who are least involved in politics. The reasoning is that such people have relatively weak political commitments, so they are easily swayed by campaign events (e.g. Berelson, Lazarsfeld, and McPhee, 1954). Second, the changes may result from the campaign environment. For example, an explicit objective of a presidential campaign is publicity. As the public learns more about the candidates, individual citizens may alter their preferential choices among the various contenders.

The data in Table 1 provide some initial evidence about these potential sources of change in candidate preferences. The top part of Table 1 shows the individual-level correlations between several measures of political involvement, and the proportions of a person's preferential choices that change over time. The most striking aspect of these correlations is that they are all extremely weak. Thus, changes in preferences are not closely tied to individual levels of

political involvement. In addition, the signs of the coefficients vary. Greater involvement should lead to higher stability, or fewer changes in preference. Hence, the correlations should all be negative. However, the two largest coefficients are positive, so they directly contradict prior expectations. Thus, the preliminary evidence suggests that changes in citizens' candidate preferences are not due to individual characteristics.

The lower part of Table 1 tests the alternative hypothesis that changes in preferences result from environmental factors. Specifically, the entries in the last row of the table are correlations between (1) the percentage of each candidate's comparisons that involve a change from time *t* to *t+1*; and (2) the proportion of nonmissing responses in each candidate's feeling thermometers. Here, the results do support the hypothesis. The correlations are 0.41 for January-June changes and 0.87 for changes from June to September. Public recognition of a candidate is clearly related to the stability of preferential choices involving that candidate. Thus, the initial evidence points unambiguously toward the political environment (i.e. the salience of separate candidates) as the likely source of variability in candidate preferences.

Potential Types of Change in the Political Environment

By focusing on the political environment, I am suggesting that we should examine the nature of the stimuli (i.e. the candidates) that are presented to the voters. In other words, the public's basic perceptions of the candidates may change over the course of the campaign, thereby affecting some of the preferential choices articulated by some citizens. It is important to emphasize that any such changes would be entirely separate from variability due to individual-level factors, such as political interest, involvement, partisanship, and the like. Presumably, changes in the political environment would be due to the actions taken by elites, such as the mass media, the parties, and the candidates

themselves. Let us consider several different ways that the electoral environment could change during a presidential campaign.

One possibility is that the candidates actively vary their own policy stands over time. For example, some formal, economic models of elections assert that candidates move freely throughout an issue space, in single-minded pursuit of an equilibrium position (e.g. Downs, 1957; Davis, Hinich, and Ordeshook, 1966; Riker and Ordeshook, 1973). However, it seems very unlikely that widespread candidate movements actually do account for environmental change. For one thing, candidates have incentives against changing their positions, in order to avoid charges of insincerity and/or naivety. Furthermore, candidates usually cannot change their public images, even if they want to do so. The literature on presidential campaigns points out that a candidate's past actions place strong constraints on future activities (e.g. Kessel, 1988; Page, 1978). Similarly, most public figures develop personal reputations based upon their patterns of behavior, support or opposition for certain policies, and interactions with interest groups. This leads to widespread "labeling" of the candidates. While these labels might be simplistic, or even false, they are extremely difficult to change, and they do foster a great deal of continuity in the way candidates are perceived by the public (Hinich and Pollard, 1981; Enelow and Hinich, 1984). Finally, the idea of stable candidate positions receives empirical support. Poole and Rosenthal (1984) report that a model in which "candidates have constant spatial positions" receives greater empirical support better than one in which candidates can move, but voters are fixed.[2] Thus, movements among the candidates' relative positions do not account for changes in the political environment.

A second possibility is that the candidates influence the nature of the evaluative dimensions used by the mass public. This corresponds to Riker's

concept of heresthetic: Varying the decision-making criteria in order to affect the decision outcome. This appears to be a very reasonable model explanation for change in the political environment, because it actually reconciles stable candidate positions with varying public perceptions. It is well-known that candidates try to shape the political environment in ways that are advantageous to their own electoral objectives. In other words, they promote the issues that will win the most support for their own campaigns and simultaneously try to shift attention away from issues that are helping their opponents. Campaign professionals, academics, and journalists all agree that this kind of strategy is routinely used by presidential candidates (e.g. Aldrich, 1980; Blumenthal, 1982; Salmore and Salmore, 1985). And, there is some evidence to suggest that it has an impact. MacDonald, Prothro, Rabinowitz, and Brown (1988) show that people use different criteria to evaluate different candidates, and Gant (1983) shows that such differences correspond to variations in candidate campaign strategies. During the 1980 campaign, most observers indicate that Carter tried to focus public attention on the uncertainties and dangers of a Reagan foreign policy, while Reagan tried to emphasize the shortcomings of the Carter economic program (Caddell and Wirthlin, 1981; Germond and Witcover, 1981; Hunt, 1981; Plotkin, 1981; Pomper, 1981).

Despite the considerable appeal of the candidate-induced change model, it does not stand up to empirical testing. Jacoby (1988; 1989) examined precisely this model in both the 1980 and 1984 elections. In both cases, he found that the evaluative dimensions actually employed within the American electorate are definitley <u>not</u> those that the candidates would emphasize in their attempts to gain an electoral advantage over their opponents. The inability of this model to account for the public's candidate perceptions is somewhat surprising and disappointing, since focusing on specific issues is a mainstay of presidential

campaign strategy. But from a slightly different perspective, these results are not that unreasonable. It would require an enormous effort for a candidate to actually shape public perceptions in the manner required in this model, and the candidates' efforts to do so might not be successful, no matter how they try to accomplish it. And, even if a candidate does influence the criterion that the public uses to evaluate himself, it is an entirely different matter to persuade people to use the same standard for judging all of the other candidates as well. Finally, the results obtained here coincide with the conclusions reported in several other studies. For example, MacKuen (1984) points out that those people who are likely to be most aware of the candidates' efforts to alter their perceptions are precisely those who are least amenable to these efforts; the net result, cast in terms of the present study, would be little, if any, candidate-induced perceptual change. Similarly, Enelow and Hinich (1984) conclude that candidates' attempts to bring about major changes in electoral agendas will probably fail. All of the preceding evidence leads to a single conclusion: Candidate-induced variability in judgmental criteria does not account for temporal changes in the public's perceptions of the candidates, within the electoral environment.

A third possibility is that citizens use a constant set of judgmental criteria to evaluate the candidates, but vary the degree of salience or emphasis placed on the respective criteria. Once again, the candidates retain stable positions with respect to issues and other dimensions of judgment. However, environmental changes occur as different components of the overall environment become more or less relevant to the public's feelings about the candidates.

There are several factors that may account for the existence of stable perceptual criteria. For one thing, the candidates do not really control the electoral environment; they do not communicate directly with most of the

electorate, so it is probably difficult for them to publicize "their" issues, in the ways that they would find most beneficial to their purposes (Patterson, 1980). Closely related to this is the fact that the candidates must depend upon the mass media for transmitting their campaign messages. But, the media may have their own agendas, which could distort the candidate's appeals somewhat. And, research on news reporting indicates that the media emphasize a fairly small number of campaign themes (Patterson and McClure, 1976). This, along with the internal pressures for conformity in news stories (Crouse, 1973), would act to insure a great deal of uniformity in the messages that reach the public. At the same time, individual citizens are affected by a variety of long-term political predispositions which may "immunize" them to new appeals and thereby impose stability on mass behavior in the face of the changing campaign environment (Bartels, 1988). One of the most important consequences of party identification and other symbolic political orientations (e.g. ideological self-placement, symbolic racism, etc.) is that they provide people with a stable vantage point from which they can observe and evaluate the political world (Shively, 1980). But in so doing, they make these people less amenable to new and different evaluative criteria, such as new issue concerns which do not coincide with previously-held loyalties and beliefs. Thus, there are several environmental and individual-level factors that simultaneously operate against changing perceptual dimensions and in favor of stable evaluative criteria over the course of the campaign.

The idea of differing emphases on the evaluative criteria is also very reasonable in substantive terms. For example, candidate strategies clearly change over time, simply because they are engaged in intra-party competition early in the campaign, and an inter-party contest after the national conventions. In a somewhat different vein, several studies have demonstrated that the media

focus on different topics over the course of an election year (Patterson, 1980; Robinson and Sheehan, 1980; 1983). And finally, it has been shown that although citizens' voting decisions are affected by a relatively fixed set of criteria, the degree of emphasis on the various factors changes markedly during a campaign (Norrander, 1986; Guerrant, 1990).

All of the preceding evidence is consistent with the idea that the public's perceptual map of the candidates consists of two separate components: A set of constant evaluative dimensions, combined with weights for each dimension which can vary over time. In the next section, I will show that this idea can be used to construct a model of temporal variability in the political environment. Furthermore, perceptual changes stemming from this environment provide an effective, parsimonious explanation for variability in citizens' preferential choices among the candidates.

The Spatial Model

The political environment (as perceived by the American electorate) can be represented by a spatial model. The candidates are represented as points within a space. The dimensions of the space correspond to the evaluative attributes that people use to judge the candidates. Accordingly, candidates who are perceived to be similar to each other with respect to these attributes will have points that are located close to each other in the space, and vice versa for dissimilar candidates. Note that the dimensions are weighted, to reflect the degree of emphasis placed on the evaluative attributes at different time points. The full configuration of candidate points represents the cognitive structure that citizens maintain with respect to the candidates.

Along with the candidates, individual voters can be represented as a second set of points within the same space. For each voter, his/her point coordinates along the dimensions correspond to that person's "point of maximum preference"

on the respective attributes. Hence, the voter's location in the space is often called that individual's "ideal point." A voter's candidate preferences are represented by the location of the ideal point relative to the candidate points. The exact function relating preferences to spatial locations must be based upon substantive considerations. At the present time, it is merely important to note that both voters and candidates are modeled as points, whose relative locations correspond to substantively important phenomena.

The spatial model will be estimated using weighted multidimensional scaling (WMDS). The input data for the WMDS analysis consist of several matrices, D_t, containing information about the public's perceived dissimilarities between the candidates. Each matrix is obtained at a different time point (designated by the "t" subscript) within the campaign period. The dissimilarities between any pair of candidates, *i* and *j*, are equated to weighted distances between points as follows:

$$d_{ijt} = ([X_i - X_j] W_t [X_i - X_j]')^{1/2} \qquad (1)$$

In equation 1, the d_{ijt} on the left-hand side is the dissimilarity between candidates i and j, at time t. This value is an input datum for the WMDS analysis; in other words, it is one cell of one input data matrix (D_t). The right-hand side of the equation is the weighted Euclidean distance between the two points-- it is part of the output from the WMDS analysis. X_i and X_j are vectors (of size 1 by m) containing the coordinates of the points representing candidates i and j along each of the m dimensions recovered in the analysis. W_t is an m by m diagonal matrix of weights, unique to the time point t.

Equation 1 shows that there are two main parts to the output from the WMDS analysis. First, there is the common stimulus configuration. This is the n by m matrix X, containing the n candidates' coordinates on each of the m evaluative

dimensions. The candidate space that is constructed from this coordinate matrix is constant across all three time points. It presumably represents the stable candidate attributes perceived by the mass public.

The second part of the WMDS output models the sources of change in perceptions. This is the set of three weight matrices, $\mathbf{W}_t$. The matrix of common candidate coordinates is post-multiplied by the respective weight matrices, in order to obtain matrices of candidate coordinates that are unique to each of the three time points (called $\mathbf{X}_t$). Each specific candidate coordinate is obtained as follows:

$$x_{ikt} = x_{ik} w_{kkt}^{1/2} \qquad (2)$$

In equation 2, x_{ikt} is candidate i's coordinate along dimension k, at time t; x_{ik} is i's coordinate along dimension k in the common candidate space; and $w_{kkt}^{1/2}$ is the weight for dimension k, at time t. Of course, a larger weight means greater salience for that dimension, and vice versa. Geometrically, the weights distort the candidate space by "stretching" axes with larger weights, and "shrinking" axes with smaller weights. Note that it is only the weights that change from one time point to the next. The axes themselves and their orientation within the space remain fixed. The differential weighting of the dimensions at the different time points should account for variability in the perceived similarities between the candidates. In this manner, the weighted dimensions of the spatial model allow for environmental change, along with constrained candidate positions.

Differential dimension weights could easily account for changes in citizens' preferential choices, as demonstrated in Figure 1. Each part of the figure shows a two-dimensional space containing two candidate points (A and B) and a single ideal point (x). Preference is equated to distances between points; thus, if x prefers A over B, then the distance from x to A is smaller than that

from x to B, and vice versa. In Figure 1A, both dimensions are weighted equally. The distance from x to A is shorter than that from x to B, so this person would prefer candidate A over candidate B. The situation changes in Figure 1B, where the two dimensions are weighted differently. Here, the candidates' coordinates along the vertical dimension are "shrunk" to half their previous values. At the same time, the horizontal coordinates are "stretched" to twice their previous sizes. Now, the x point is closer to the B point than to the A point, so this person's preferential choice between the candidates would be reversed, to B over A. It is important to note that the ideal point does not change. Presumably this person retains his/her own position with respect to each of the evaluative criteria. This is substantively reasonable: If a person adheres to a particular policy position, there is no reason to expect that his/her position will change, even if that policy becomes more (or less) important in forming the overall perception of the candidates. Of course, the ideal points could move; for example, attitude changes could alter a citizen's position within the space. However, any such movements would be entirely separate from changes in the dimension weights.

The spatial model and the WMDS estimation procedure provide a particularly useful strategy for examining public opinion during an election campaign. First, the candidate space is determined empirically, from the survey respondents' own thermometer ratings. This means that the candidate point locations will conform to the ways that the public views the candidates, rather than any a priori specification of the distinctions between them. Similarly, the axes of the space should correspond to the evaluative dimensions that people actually use in their judgments. In summary, the WMDS results will accurately represent the "perceptual map" that citizens bring to bear on the 1980 presidential candidates.

A second advantage is that the spatial model represents the full field of candidates, simultaneously. Other studies focus on voting choices between the two major party nominees (e.g. Markus, 1982), or they examine the development of attitudes toward single candidates or candidate pairs (e.g. Bartels, 1988; Guerrant, 1990). In either case, they involve an implicit assumption that citizens' orientations toward <u>each</u> candidate (or pair of candidates) are independent of their feelings toward other candidates. With a spatial model, we can begin to examine the accuracy of this assumption.

A third advantage of the spatial model is that it can provide a parsimonious representation of change over time. Stated simply, as public perceptions of, and preferences for the candidates change, the point configurations change in corresponding ways. The patterns that emerge in the point "movements" literally provide a picture of what goes on in the minds of the voters. This should greatly increase our understanding of the dynamics of public reactions toward the campaign.

A fourth, related advantage is that the spatial model allows us to differentiate between environmental and individual-level sources of change in citizens' preferential choices. As we have already seen, variability in the dimension weights will affect the distances from ideal points to candidate points. If pairwise comparisons of these distances correspond to actual preferential choices, then we are justified in concluding that a component of the electoral environment (i.e. the weights) accounts for variability in individual choice behavior. Alternatively, it may be necessary to "move" the ideal points over time, in order to maintain consistency between distances and preferences. If so, these citizens are changing their own affective reactions; they come to like some candidate more and others less, over the course of the campaign. In this case, we would conclude that individual citizens' characteristics contribute

to their changes in candidate choices, apart from any environmental change that may also take place. The general idea here is that the spatial model enables us to distinguish between these different kinds of change, where traditional approaches do not.

Empirical Results

The first step of the empirical analysis is to construct the similarities matrices, based upon the electorate's perceptions of the candidates. The Major Panel component of the 1980 CPS National Election Study contains the necessary data. In fact, this part of the analysis will use the same feeling thermometers that were previously employed to measure preferential choices. Here, the responses to the thermometers are used to construct a single candidate similarities matrix for each time point. The line-of-sight measure of interobject similarity (Rabinowitz, 1976) is used here, because it is appropriate for the assumptions of the spatial model (e.g. Jacoby, 1991).[3]

The ALSCAL program (Young, and Lewyckyj, 1979) is used to estimate the candidate coordinates and the dimension weights. This program generates a least-squares solution, based upon the input matrices. In other words, it provides the best-fitting set of weighted interpoint distances for the public's perceived similarities between the candidates. For the 1980 data, a two-dimensional solution is appropriate.[4] The overall fit of the point configuration to the data is very good. The R^2 between the scaled distances and the input similarities is .801. More important, the scaled results are readily interpretable in substantive terms.

The Common Candidate Space

The empirical configuration of candidate points is shown in Figure 2. The overall partisan nature of the political environment is immediately apparent. The points representing Democratic candidates are arrayed vertically within the

left side of the space, while the Republican points are scattered throughout the center and the right side.[5] Thus, the American electorate clearly distinguishes between candidates on the basis of their party affiliations. Of course, this is hardly a surprising result, since partisan background is often the one real piece of information that people possess about the candidates.

Recall that the axes of the space correspond to the judgmental dimensions that people use to evaluate the presidential candidates. In Figure 2, the horizontal axis clearly corresponds to an ideological dimension, with liberal candidates (e.g. Kennedy and Brown) located toward the left side of the space, and conservatives (e.g. Connally and Dole) located toward the right. The vertical axis seems to represent some kind of "credibility" or "electability" dimension. At the higher end of this continuum are located the nominees from both parties, Reagan, Bush, Carter, and Mondale. At the other extreme, we find candidates with no realistic chance of winning, such as Brown and Connally. Accordingly, this dimension seems to tap the degree to which candidates are viewed as realistic contenders in the 1980 election.[6]

These interpretations of the dimensions generally agree with those given in other spatial models of the 1980 election. And, they are confirmed by external evidence. Respondents in the 1980 NES Panel study placed ten of the candidates on a seven-point liberal-conservative scale. The correlation between the mean candidate placements and the point projections on the horizontal axis is quite strong, at 0.80. Thus, the candidates' spatial locations coincide very closely with the public's perceptions of their ideological positions.[7] Turning to the credibility dimension, the survey respondents were asked which candidates they believed had any chance of receiving each party's nomination. The proportions who chose each of the candidates can be used as a measure (admittedly, an imperfect one) of candidate credibility.[8] Its correlation with the point

projections on the vertical axis is very acceptable, at 0.62. Thus, an important component of public perceptions in 1980 apparently focused on judgments of each candidate's chances of winning.

It is important to emphasize that the candidate configuration in Figure 2 is a common space; in other words, this is a stable structure of public perceptions during the 1980 campaign period. The recovered dimensions of this space represent a set of evaluative criteria that citizens used at all three time points. This space is an empirical manifestation of the candidates' "public reputations," which were discussed earlier. Accordingly, the candidate points do not move within this space, because of the candidates' public labels, and their own incentives to be consistent in their policy positions. As explained earlier, temporal variability should be due to the ways that citizens emphasize the different dimensions over the course of the campaign.

Time-Specific Dimension Weights

Figure 3 presents a graphic display of the weights applied to the dimensions at each time point. The axes in the figure are identical to those int he candidate space. Hence, the horizontal axis corresponds to ideology, while the vertical represents credibility/electability. The vectors represent the waves of the panel study, and each one's orientation shows the weights specific to that time point. The smaller the angle between a vector and an axis, the greater the emphasis on that dimension, at that time point. The lengths of the vectors are also scaled to reflect goodness-of-fit. The longer the vector, the higher the R^2 for that time point.

The results in Figure 3 show a clear pattern in public perceptions of the electoral environment. First, the R^2 values increase steadily from January (.724) through September (.849). This is completely consistent with the idea of learning processes taking place within the electorate (e.g. Bartels, 1988). As

the campaign moves onward, public perceptions crystallize into a systematic, coherent "picture" of the field of candidates. The longer the exposure to campaign-relate stimuli, the greater the structure in the public's view of where the candidates stand, relative to each other.

There is also a systematic pattern among the dimension weights, which change markedly from January to September. At every time point, the ideological dimension is weighted more heavily than the credibility dimension. And, the emphasis on the former increases from January through September, while the latter drops sharply in importance over the same time period. In fact, by September, the ideological dimension clearly dominates the public's perceptions of the candidates, and their credibility has virtually no impact at all. These results clearly show that the electoral environment facing the public at the end of the presidential campaign is quite different from the one that existed at the beginning of the election year.

The observed variability in the dimension weights is very consistent with findings reported elsewhere in the literature. For example, Miller and Shanks (1982) show that perceptions of the candidate's issue positions polarized sharply, beginning in the middle stages of the 1980 campaign. Poole and Rosenthal (1984) also report that a liberal-conservative policy dimension dominated the spatial locations of the candidates late in the 1980 campaign. Both of these results are fully consistent with the increasing weight on the ideological dimension found here. Turning to the credibility dimension, both Bartels (1985) and Abramowitz (1987) report that public expectations about the candidates influence voters' choices during the early parts of a campaign. Bartels goes on to demonstrate that this effect declines at later time points in the election year. Of course, these findings are fully consistent with the decreasing salience of the credibility dimension found in the present analysis.

Who or what determines the weights attached to the respective dimensions? With only three time points, it is probably impossible to formulate a definitive answer to this question. However, there does appear to be at least one negative conclusion that can be drawn: The dimension weights are definitely not due to variations in the mass media's emphasis on particular topics over the course of the campaign. Robinson and Sheehan (1983) conducted a detailed study of media coverage in the 1980 election. As part of their analysis, they tabulated the amount of on-air time that the CBS Evening News devoted to various kinds of stories. From this, we can calculate the percentage of news coverage that focused on the candidates and on the issues. If the mass media really are priming citizens' candidate evaluations, then these percentages should correspond closely to the weights for the first and second dimensions, respectively. Figure 4 shows that this simply does not occur. The graph in Figure 4A traces the amount of issue coverage, and the weights for the ideology dimension across the three time points. Figure 4B does the same thing for candidate coverage and the weights on the credibility dimension. In each case, the lack of correspondence is immediately obvious. Media coverage does not correspond to dimensional weights, either in terms of absolute levels, or in variability over time. Thus, the mass media's emhpasis on certain kinds of stories (i.e. candidate characteristics versus policy issues) does not translate directly into the evaluative criteria that people bring to bear on the candidates.

An alternative explanation for the dimension weights is simply the number of active candidates at each of the three time points. Of course, this number decreased steadily from January through September, and this corresponds precisely to the declining salience of the credibility dimension in the WMDS results. Early in the 1980 campaign, questions about the candidates personal abilities and characteristics were widespread: Was Reagan too extreme a conservative to be

president? Was Kennedy responsible enough? Did Bush really have enough support among moderates? Did Carter deal competently with the economy and the Iranian crisis? All of these kinds of questions focus squarely on the candidates' competence and credibility levels. At the same time, the mere existence of several potential candidates during the early stages of the campaign would force voters to examine the individuals involved more closely. But as the campaign progressed, the fields narrowed, and questions about the individual candidates apparently faded behind more long-standing differences based upon ideological and partisan considerations. This corresponds perfectly to the increase in the weights attached to the ideology dimension. Once again, it is important to emphasize that this interpretation is more speculative than conclusive. Nevertheless, the size of the active candidate "pool" at each time point is definitely related to the weights placed on the evaluative criteria that people bring to bear on presidential candidates.

Perceptual Change and Individual Preferences

In the previous section, we saw that the public's candidate perceptions can be represented as a set of points fixed in a two-dimensional space, where the weights attached to the dimensions vary over time. However, it is still necessary to determine whether this kind of perceptual change can account for the candidate preferences articulated by individual citizens. In order to do so, we must examine the locations of the citizens' ideal points, relative to the candidate points.

If the changing dimension weights do account for changes in preferential choices, then the ideal points should remain fixed at their coordinates along each of the dimensions. According to this explanation, changes in the campaign environment affect the "mix" of factors that goes into each person's preferential choices, thereby causing some changes in the preferences, themselves. An

alternative explanation for variability in preferences is that genuine attitude change occurs among the electorate. That is, some people come to evaluate certain candidates more positively, and others more negatively, independent of their perceptions of these candidates. If such attitude changes occur during the campaign, then the ideal points would move within the space, in addition to the variation in the dimension weights. For obvious reasons, these two alternatives will be called the "stationary ideal points" (SIP) and "moving ideal points" (MIP) models, respectively. Of course, each person's ideal point is totally independent of any others. Therefore, both models could easily be appropriate for different subsets of the 1980 electorate.

Testing for movement in ideal points

An external unfolding analysis can be performed, in order to test the fit of the SIP and MIP models to citizens' candidate evaluations. This means that the ideal points will be fitted to the previously-derived candidate configuration (Carroll, 1972). In order to do so, it is first necessary to specify the appropriate preference function, relating the ideal point locations to the candidate point locations. The nature of this preference function probably varies across the two dimensions of the space. On the ideology dimension, preference should correspond to distance. That is, each person has a point of maximum preference somewhere along the liberal-conservative continuum; the closer a candidate point comes to this point (from either direction), the more the individual prefers that candidate. But, preferences are generated differently on the second dimension. Presumably, voters want "their" candidates to be as credible/electable as possible. In that case, it is not really appropriate to say that a person has a measurable point of maximum preference along this axis. Instead, the higher the value of a candidate's coordinate on this axis, the more

that candidate is preferred. For the SIP model, these two preference functions are combined into the following equation:

$$e_{vi,t} = \beta_{0v} + \beta_{1v} (x_{v1,t} - x_{i1,t})^2 + \beta_{2v} x_{i2,t} + u_{v,t} \qquad (3)$$

In equation 3, $e_{vi,t}$ is individual v's thermometer rating of candidate i at time t. $x_{v1,t}$ is v's unknown coordinate along the ideological dimension at time t; of course, this coordinate is constant over time in the SIP model, so the t subscript is unnecessary. However, it is included here to facilitate comparison with the MIP equation presented below. $x_{i1,t}$ and $x_{i2,t}$ are candidate i's known coordinates along the two axes. Again, the candidate coordinates can change because of the differing weights at each time point. Therefore the t subscript must be included on these terms. The β_{1v} coefficient should be negative, since preference increases as the difference between x_{v1} and $x_{i1,t}$ decreases. The β_{2v} coefficient should be positive, since preference increases with candidate credibility, presumably without any upper limit. As a result, there is no measurable coordinate for v along the second axis. If anything, people would be located at an "infinitely high" position along this dimension.

The MIP model is tested using the following equation:

$$\begin{aligned} e_{vi,t} = {} & (\beta_{0v} + \beta_{0v,2}\delta_2 + \beta_{0v,3}\delta_3) + \\ & (\beta_{1v} + \beta_{1v,2}\delta_2 + \beta_{1v,3}\delta_3)\ (x_{v1,t} - x_{i1,t})^2 + \\ & (\beta_{0v} + \beta_{2v,2}\delta_2 + \beta_{2v,3}\delta_3)\ x_{i2,t} + u_{v,t} \end{aligned} \qquad (4)$$

Although equation 4 may look formidable, it is merely a generalization of equation 3. The only difference is the inclusion of the terms involving δ_2 and δ_3. These are dummy variables, representing the time points. δ_2 has a value of one if t=2 (i.e. the June wave of the panel) and zero otherwise. Similarly, δ_3 has a value of one for t=3 (the September wave) and zero otherwise. The inclusion of these dummy variables enables the preference functions to vary over the time points, as well as the citizen's coordinate along the first dimension

($x_{vl,t}$); hence, the t subscript is necessary for this coordinate, with the MIP model.

The unknown coefficients and point coordinates in equations 3 and 4 can be estimated for each respondent, using a regression-based procedure described by Carroll (1972). In the present case, we are less interested in the specific parameter estimates, than in the goodness of fit of the two equations to each person's preferences.[9] If equation 4 produces a larger R^2 than equation 3, then it would indicate that the person's ideal point changes locations over the three waves of the panel. If equation 4 does <u>not</u> fit the data any better than equation 3, then a single ideal point location is sufficient; we would conclude that any changes in preferential choices would be due to the varying weights along the dimensions.

Table 2 summarizes the results of this analysis, by presenting information on the adjusted R^2 values. These vary a great deal from person to person: The range is -.13 to .92 for the SIP model, and -.68 to .93 for the MIP model.[10] Thus, some individuals' preferences fit the candidate configuration extremely well while others do not, regardless whether the ideal points are held stationary or permitted to move. But, note the <u>mean</u> adjusted R^2 values for the two preference models: They are 0.29 for the SIP model, and 0.26 for the MIP model. This shows that, once degrees of freedom are taken into account, the model that allows ideal points to vary over time actually fits the data <u>worse</u> (on average) than the model that requires fixed ideal points.

At the individual level, we can directly compare the fit of the two models. Equation 3 is fully nested within equation 4, so it is possible to construct an F test that compares R^2_{MIP} and R^2_{SIP}. Equation 4 contains more terms on the right-hand side than equation 3; therefore, R^2_{MIP} will always be larger than R^2_{SIP}. The question, of course, is whether R^2_{MIP} is <u>sufficiently</u> large to represent a

meaningful improvement over R^2_{SIP}. The F test does this, by determining whether any of the terms involving δ_2 and δ_3 are significantly different from zero; if so, equation 3 is an inadequate representation of individual v's preferences, and equation 4 must be used instead.[11] Thus, the F test acts as a direct confrontation between the SIP and MIP models, for each individual respondent from the 1980 NES sample. The probability value associated with this test has a substantive interpretation: It is the probability of observing the empirical $E_{v,t}$ vector along with the X_t matrices of candidate coordinates, given that individual v's ideal point remains stable over the three time points. Thus, the lower this value, the greater the probability that the ideal point moves during the campaign. Conversely, the higher this value, the greater the probability of a stable ideal point.

Table 3 presents the frequency distribution for the probability values obtained from the individual-level F tests. Although there is a wide range of values, most of the observations fall toward the higher range. The conventional decision criterion is 0.05; for individuals with probability values less than or equal to this value, we would reject the null hypothesis of a stable ideal point. However, only seven percent of the respondents have probability values within this range. The conclusion to be drawn from Table 3 is clear: The preferences given by the vast majority of individuals do not fit the MIP model any better than they do the SIP representation. For most people, ideal points do not move independently of the changing weights on the evaluative dimensions.

Testing individual-level sources of change

Despite the generality of the preceding conclusion, the fact remains that some individuals' ideal points do seem to move relative to the candidate points. But, is this movement substantively important? That is, does it represent genuine attitude changes toward the candidates? Or, does the observed movement

simply represent meaningless fluctuations? The latter could easily be due to stochastic influences on individual candidate evaluations, as well as measurement errors in the feeling thermometer responses. In this section, I will address these questions by analyzing the relationships between ideal point movements and citizens' individual characteristics. If the ideal point movements are simply random fluctuations, then they should not be systematically related to any other variables. On the other hand, if the movements are substantively meaningful, then previous research efforts suggest a variety of factors that may be leading to their existence.

This part of the analysis uses a regression model. The dependent variable in this model is simply the probability from the F test in the previous section. As explained there, this is the probability that the individual's observed vector of candidate evaluations can be explained by the spatial model with a single ideal point for that person; thus, the larger the value, the greater the likelihood of a stable ideal point. The logit of this probability can be regressed on a set of independent variables.[12] The latter are chosen because they correspond to factors that are believed to influence the degree of stability and change in citizens' political preferences. Note that the specific operationalizations used for these variables are given in the Appendix.

Table 4 presents the parameter estimates obtained from the regression analysis. The specific values of the coefficients are difficult to interpret, since the dependent variable is a logit function of the probabilities. Therefore, the standardized regression coefficients are also shown. The results in the table are largely negative. For one thing, the R^2 value is extremely low, at only .061. Similarly, very few of the independent variables have significant effects on the dependent variable. These negative results are extremely important,

because they directly contradict a great deal of the "conventional wisdom" about individual behavior during campaigns.

The first three independent variables-- Interest, information, and concern about the election outcome-- all measure individual political involvement. Their coefficients are positive, meaning that higher levels lead to greater stability in ideal point locations. However, the magnitudes of the effects are tiny, and none of them are statistically significant. Thus, the data do not support the assertion that attitude change is most prevalent among the least involved and interested portions of the electorate.

The next three independent variables exhibit similar null results for media effects. The media use index has a positive coefficient, showing that reliance on several sources for information about the campaign increases the stability of the ideal point slightly. The other two variables have negative coefficients, which indicates that both reliance on television and on the newspapers for information decreases the stability of the ideal point location. Once again, however, none of these coefficients are statistically different from zero; hence neither the amount nor the nature of media reliance seems to affect the likelihood of attitude change among individual citizens.

Partisan reference groups also show no effect whatsoever. It is widely believed that stronger party identifications decrease individual susceptibility to persuasive political messages. Therefore, partisan strength should be negatively related to the likelihood of attitude change. Conversely, some analysts have suggested that political independence is, itself, a reference point for certain individuals. In this interpretation, "strong independents" should adhere to the ideals of the "classical democratic citizen." Accordingly, we would expect them to show a rather high level of attitude change, as they scrutinize the candidates more closely than other people in the electorate.

Stated simply, neither of these kinds of partisan effects emerge at all in the data. The coefficients for strength of partisanship and strength of independence are both very small, and nonsignificant.

Table 4 provides evidence against the existence of individual-level learning effects during the campaign. Presumably, citizens' choices among the candidates could change as they become aware of newly-emerging candidates. Given the presence of several relative unknowns in the 1980 campaign, we could reasonably expect this to be a major factor in individual attitudes toward the candidates. However, this is simply not the case. The coefficient for the variable measuring temporal changes in familiarity with the candidates has the expected sign: It is positive, showing that learning corresponds to less stability in the ideal point. However, the magnitude is again very small and not statistically significant.

The remaining three variables are the only ones that even approach conventional standards of statistical significance in their effects on movement in the ideal points. First, higher levels of education (i.e. beyond secondary school) have a positive, and barely significant coefficient.[13] Thus, they contribute somewhat to an individual's stability vis-a-vis the candidates. Second, informal interpersonal interactions seem to have a major impact. The coefficient for this variable is positive and much larger than its standard error. Hence, talking about the campaign to other people clearly corresponds to greater stability in a person's candidate attitudes. And finally, more formal interpersonal contacts seem to have the opposite effect. That is, party contacts and attendance at political meetings leads to a significant decrease in the probability that the ideal point remains stable. Stated differently, these factors increase the likelihood that the individual changes his/her affective reactions toward the candidates.

While the negative results from Table 4 may be somewhat surprising, they are by no means inconsistent with previous research. For example, it has long been recognized that the purported inverse relationship between political involvement and stability of preferences is extremely weak, at best (Rossi, 1959). At the same time, more than thirty years of research on the mass media has been dominated by a minimal-effects model (e.g. Klapper, 1960). Of course, several recent studies have vigorously contested this model. However, those analyses that do reveal media effects on public opinion usually have little to say about their impact on candidate choice-- the variable that is the focus of the present analysis. Similarly, Bartels (1988) has convincingly shown that there are learning effects on citizens' evaluations of individual candidates. However, these effects have an impact on the entire electorate (i.e. as new candidates emerge, all citizens become aware of them, more or less equally), and hence would be incorporated within the environmental variability detailed in the earlier parts of the present study. Thus, learning effects would be included as part of the perceptual changes, rather than any attitudinal changes that would be modelled by movement in ideal points. Finally, consider the negative results for partisanship. The idea that attachments to partisan reference groups insulate individual citizens from outside appeals is widely recognized (Converse, 1969; Shively, 1980), but it has seldom been tested directly. The present results suggest that it would not hold up to rigorous empirical scrutiny. The idea of political independence as a separate group attachment has also been questioned in the recent literature (McDonald and Howell, 1983). The null effect of that variable on the stability of the ideal points shows that these questions are well-founded.

The positive results from Table 4 are also quite reasonable, in view of the recent research literature. Education can be taken as a surrogate indicator of

an individual's level of political sophistication. And, stability in political attitudes has long been regarded as an essential characteristic of a sophisticated belief system (e.g. Converse, 1975). The present results bear this out very nicely: People with high levels of education maintain particularly stable attitudes toward the candidates. The effects of informal interactions are completely consistent with Huckfeldt and Sprague's ongoing analyses (e.g. 1987) of interpersonal networks and political behavior. Similarly, the effects of formal interactions are also important. Recent studies of party organizations have shown that organizational contacts with voters have increased in recent years, and that this kind of activity has an impact on election outcomes (Gibson, Cotter, Bibby, and Huckshorn, 1985; Frendreis, Gibson, and Vertz, 1990). The results given here provide even more direct support for the view that organized party activity affects citizens' basic political orientations. People who are contacted by the parties, or who attend political meetings are much more likely to change their position, relative to the candidates.

Given the empirical results presented here, we can return to the question stated at the beginning of this section: How are we to interpret the observed movements in the ideal points? Unfortunately, there is still no completely simple answer. As we have seen, there are a few systematic influences on the stability of citizens' ideal point locations. Still, the effects of these variables remain quite weak. It is impossible to overlook the extremely low level of variance explained, and the many explanatory variables that have no effect on the ideal point locations. Therefore, I would argue that most of the observed variability in ideal point locations is simply "noise" in the data. Changes in citizens' preferential choices are more usefully attributed to environmental variability in perceptions of the candidates, rather than to changes in individual affective reactions toward those candidates.

Conclusions

This analysis has used a spatial model to examine variability in citizens' preferential choices among presidential candidates, over the course of the 1980 election year. The results can be briefly summarized as follows: The electorate's perceptions of the candidates were based upon two evaluative dimensions. While the dimensions themselves remained fixed across the three time points, the weights attached to the dimensions varied markedly. The variability in the dimension weights also changed the distances from the candidate points to the citizens' ideal points in the spatial model. These changes were largely responsible for the variability in expressed preferential choices. Stated differently, there is little additional movement in individual citizens' ideal points, once the "stretching" and "shrinking" of the dimensions is taken into account. Furthermore, to the extent that the ideal points do move separately from the dimension weights, the movements appear to be largely (although not entirely) random fluctuations, rather than systematic variability in citizens' affective reactions toward the candidates. These results have several important implications for the study of mass political behavior during election campaigns.

First, people use reasonable and effective evaluative criteria to form their judgments about the candidates. The empirical support for the two-dimensional candidate point configuration shows that public perceptions are not merely shallow responses to candidate images. Of course, the candidates' personal characteristics are likely to be a major component of judgments about their electoral suitability. But, as Miller, Wattenburg, and Malanchuk (1986) argue, it is perfectly appropriate for citizens to use past performance and personal characteristics as a standard for judging an individual's suitability for public office. And, it is important to reiterate that the ideological continuum always overshadows the credibility/suitability dimension in the

formation of citizens' perceptions. Hence, there is a strong policy-relevant component to the orientations that people bring to bear on this aspect of the political world. All in all, these results convey a fairly optimistic view of an electorate capable of making rational decisions about their presidential candidates.

A second implication of this study is that the mass media have little direct, independent impact on the public's reaction toward presidential candidates. The changes in the dimension weights do not correspond to variability in the amount of media coverage given to different kinds of stories. Hence, media-based priming of candidate evaluations does not seem to occur. Similarly, neither the overall amount nor the specific nature of media exposure seems to have any discernible effect on individual affective reactions toward the candidates. Hence, the charge that the media are able to control the public's response to a presidential campaign appears to be largely groundless. Of course, this is not to say that the media are unimportant, by any means. Obviously, the media are the only source of political information for the vast majority of citizens within the electorate. Their coverage of the candidates' prior histories and experiences probably constitutes the major determinant of their perceived degree of electoral suitability, as well as the public's general impressions of their ideological positions. Thus, the media are largely responsible for the existence of the candidate configuration in the first place. The results from this analysis merely demonstrate that once formed, the media do not seem to alter this configuration (or the citizens' locations with respect to it) in any systematic fashion.

Third, the empirical support for the model with constant dimensions and changing weights is extremely important. The candidate configuration (including its dimensions and the weights attached to them) represents an important, central

component of the political environment confronting the electorate. The results from this analysis demonstrate that the very nature of this environment changes from January to September of the election year. And, these changes have enormous consequences, since the variation in the dimension weights largely accounts for the empirical variability in citizens' preferential choices. This is direct evidence that citizens do, in fact, react to the political world. It is probably accurate to characterize most people as passive observers of the presidential campaign. But "passive" does not mean "isolated," "nonresponsive," or anything of that sort. As the environment changes around them, people apparently adjust their perceptions of the stimuli within that environment, by relying on the "mix" of evaluative standards that is appropriate for that time point.

A fourth implication of this study concerns the quality of mass behavior during an election campaign. It is widely believed that campaigns have little real effect on their audience and furthermore, that the people most responsive to new information during the campaign are those who are least capable of making effective use of it (e.g. Berelson, 1952; Berelson, Lazarsfeld, and McPhee, 1954). If this is actually the case, then there are major negative consequences for the viability of democratic political systems. For example, Kelley (1983) refers to "the rule by the worst of the many." But the present analysis provides a good deal of evidence <u>against</u> this so-called "Berelson paradox" (Granberg and Holmberg, 1990). As we have just seen, most of the empirical variability in preferential choices can be attributed to the political environment, rather than to characteristics of individual citizens. And even if we do focus specifically on the affective changes that occur over the campaign (i.e. movements in ideal points), these are not particularly pronounced among the less-interested, less-informed, weak partisans within the electorate. Thus, it

is simply not the case that the 1980 presidential election was decided by the voters who were most inattentive, or otherwise insulated from the realities of the political world around them.

Finally, the results from this study indicate that interpersonal interactions are an essential component to stability and change in candidate attitudes. To the extent that individual affective reactions did change, apart from the environmental influences, they seemed to be affected by contact with others during the election year. This worked in at least two different ways. On the one hand, informal political discussion with friends and other essentially nonpolitical contacts signicantly increased the stability of a person's position relative to the candidates. This suggests the possibility of selectivitiy effects in polical communications, and political homogeneity in the composition of one's friends and acquaintances. More generally, the results strongly support Huckfeldt and Sprague's observation that "voting is a social act (1987; also see MacKuen and Brown, 1987)." At the same time, explicitly political contacts (e.g. talking with party workers or attending political meetings) substantially increased the likelihood of attitude changes toward the candidates. This, in turn, supports the longstanding beliefs of party workers and officials that it is important to "get out and meet the people." The empirical results presented here suggest that doing so is a particularly effective way to change voters' minds.

In conclusion, this study has examined the public's candidate preferences during the 1980 presidential campaign. The results show that stability and change in citizens' choices are largely responsive to variability in the political environment facing the electorate. This not only addresses directly several major questions that have dominated the scholarly study of mass political

behavior. It also provides important insights about the ways the public responds to the political world.

Notes

1. These specific candidates were chosen for the analysis because they were all considered contenders for the presidency or vice-presidency at some point during the 1980 campaign. Philip Crane was not included, because he was recognized by less than 10 percent of the NES respondents.

2. Poole and Rosenthal conducted their analysis differently from the one presented here. They performed a multidimensional unfolding analysis that simultaneously located points for the candidates and the voters. Because of this research strategy, their analysis of the panel data had to hold one of the sets of points (i.e. either candidates or voters) constant, in order to make the results comparable over time. This analysis differs-- and is similar to the one conducted by Rabinowitz (1973)-- in that it locates the two point sets separately. In this way, we can analyze variability in each set, without having to make overly restrictive assumptions about the other set of points.

3. The line-of-sight (LOS) measure was developed by Rabinowitz as a means of transforming a rectangular matrix of N subjects' rating scale responses toward each of n stimuli into a square, n by n matrix of ordinal dissimilarities between the stimuli. The LOS measure is consistent with the spatial model used here because it assumes that individual responses are monotonically related to the distances between the ideal points and the stimulus points. The complete development of this measure is contained in Rabinowitz (1973; 1976). Those sources, along with Jacoby (1991) also contain comparisons with several alternative measures of dissimilarities, such as the Pearson correlation coefficient.

4. With only eleven candidates, it is impossible to obtain a reliable three-dimensional solution. Thus, the two-dimensional solution was selected for pragmatic, as well as theoretical reasons.

5. The scale values on the axes of a WMDS solution are measured on an interval scale; hence, they can be subjected to a linear transformation, without altering the fit of the scaling solution. Because of this, the absolute values of the point coordinates are meaningless. Thus, terms like "center," "left," and "right" must be interpreted strictly as <u>relative</u> terms, comparing points to the locations of other points.

6. Of course, these axes can be interpreted in different ways. For example, the horizontal axis also separates the candidates according to partisanship, with Democrats to the left, Republicans on the right, and Anderson, the independent, located between the two partisan groups. However, the simpler division by party does not account for the differences <u>within</u> the partisan groups. The second axis might also be interpreted as a more general "valence" dimension, or measure of the candidate's personal characteristics. Obviously, the latter do contribute to a candidate's credibility. But, the array of candidate points along the certical axis does not really coincide with their levels of personal appeal. For example, Gerald Ford was evaluated extremely positively, but his point is only located at the center

of the vertical axis. Similarly, the location of the Anderson point is problematic if the vertical axis is a personal appeal dimension. Panel respondents were asked how well a series of qualities (e.g. "dishonest," "knowledgeable," etc.) described the candidates. Anderson's ratings on these variables are extremely comparable to those given to Carter and Reagan. But again, Anderson is located at a point far removed from those major party candidates. Therefore, credibility or electability seems a more appropriate interpretation for this dimension.

7. The candidate positions are operationalized as their mean placement, across all waves of the panel study. This allows for the inclusion of Baker and Anderson, who were not included in all waves. Over time, the public's ideological placements seemed to polarize a bit, but the relative positions of the candidates remained very stable.

8. This variable is based upon responses from the January data only, in order to avoid the effects of the actual primary outcomes, In other words, by June, 1980, it was very clear who the two party nominees would be simply from the primary and caucus results that had already occured. I wanted a perceptual variable, that was "uncontaminated" by such events. Also, note that Mondale was not included in this variable, since he was explicitly running for the Vice-Presidency. As a result, very few people gave him any chance of getting the Democratic presidential nomination.

9. In fact, the estimated point coordinates along the first dimension are highly unstable, because of collinearity problems in the regression procedure. Because of this, the external preference analysis would not be very useful for actually locating the individual ideal points. However, the R^2 values are not affected by the collinearity problem, so it is still possible to test which model fits the preferences best. When goodness-of-fit values are reported in the text, they are adjusted R^2 values. This is necessary to take into account the different degrees of freedom in the SIP and MIP models.

10. Note that adjusted R^2 values can be negative. This occurs when the model sum of squares is very small, and the number of observations is small, relative to the number of parameters that are estimated in the equation. In effect, the degrees of freedom used up by the estimates decrease the accuracy of the predicted dependent variable values, beyond simply using the mean of the dependent variable.

11. The test statistic is calculated as follows:

$$F = \frac{R^2_{MIP} - R^2_{SIP}}{1 - R^2_{MIP}} \cdot \frac{n_{evals} - df_{MIP}}{df_{MIP} - df_{SIP}}$$

Where: R^2_{MIP} and R^2_{SIP} are the proportions of variance explained by the MIP and SIP models, respectively; df_{MIP} and df_{SIP} are the model degrees of freedom associated with the SIP and MIP estimating equations; and n_{evals} is the number of nonmissing candidate evaluations given by the respondent. For all respondents, df_{MIP} are 12, and df_{SIP} are 4. If the respondent evaluates all candidates, then n_{evals} is 31. Note that respondents are only included in this part of the analysis if they had at least some nonmissing evaluations on all three panel waves; therefore, n_{evals} is always greater than 21. If the

respondent's ideal point really does not move over time, then the MIP model will provide no improvement in fit. As a result, the two R^2 values will not differ. In that case, the test statistic is distributed as F, with $df_{MIP} - df_{SIP}$, and $n_{evals} - df_{MIP}$ degrees of freedom.

12. For a probability, p_i, the logit is defined as: $\log[p_i/(1-p_i)]$. This transformation is used because probabilities are bounded by zero and one. The logit transformation is continuous from negative to positive infinity. Essentially, a regression model with a logit as the dependent variable implies that the dependent variable is an "S-shaped" function of the independent variables.

13. Two dummy variables are used for education because the trichotomous division into less than high school, high school graduates, and people with at least some college effectively captures any major distinctions across educational levels. The obvious alternative is to simply use years of education. However, nobody would seriously contend that each additional year of education leads to a systematic change in the stability of the ideal point. Furthermore, the fact that one dummy variable has a significant coefficient while the other does not suggests that education effects are <u>not</u> constant across all levels. Hence, the use of dummy variables appears to be well-justified.

References

Abramowitz, Alan I. (1987) "Candidate Choice Before the Convention: The Democrats in 1984." Political Behavior 9: 49-61.

Aldrich, John H. (1980) Before the Convention. Chicago: University of Chicago Press.

Bartels, Larry M. (1985) "Expectations and Preferences in Presidential Nominating Campaigns." American Political Science Review 79: 804-815.

----- (1988) Presidential Primaries and the Dynamics of Public Choice. Princeton, NJ: Princeton University Press.

Berelson, Bernard R. (1952) "Democratic Theory and Public Opinion." Public Opinion Quarterly 16: 313-330.

Berelson, Bernard R., Paul F. Lazarsfeld, William N. McPhee (1954) Voting. Chicago: University of Chicago Press.

Blumenthal, Sidney (1982) The Permanent Campaign. New York: Touchstone Press.

Caddell, Patrick and Richard Wirthlin (1981) "Face Off: A Conversation with the Presidents' Pollsters." Public Opinion 3 (Number 6, December/January): 2-12.

Carroll, J. Douglas (1972) "Individual Differences and Multidimensional Scaling." In Roger N. Shepard, A. Kimball Romney, Sara Beth Nerlove (Editors) Multidimensional Scaling: Theory and Applications in the Behavioral Sciences. New York: Seminar Press.

Converse, Philip E. (1969) "Of Time and Partisan Stability." Comparative Political Studies 2: 139-171.

----- (1975) "Public Opinion and Voting Behavior." In Fred I. Greenstein and Nelson W. Polsby (Editors) The Handbook of Political Science. Reading, MA: Addison-Wesley.

Crouse, Timothy (1973) The Boys on the Bus: Riding with the Campaign Press Corps. New York: Ballantine.

Davis, Otto A., Melvin J. Hinich, Peter C. Ordeshook (1970) "An Expository Development of a Mathematical Model of the Electoral Process." American Political Science Review 64: 426-448.

Downs, Anthony (1957) An Economic Theory of Democracy. New York: Harper and Row.

Enelow, James M. and Melvin Hinich (1984) The Spatial Theory of Voting. New York: Cambridge University Press.

Frendreis, John P., James L. Gibson, Laura L. Vertz (1990) "The Electoral Relevance of Local Party Organizations." American Political Science Review 84: 225-235.

Gant, Michael M. (1983) "Citizens' Evaluations of the 1980 Presidential Candidates: Influence of Campaign Strategies." American Politics Quarterly 11: 327-348.

Germond, Jack W. and Jules Witcover (1981) Blue Smoke and Mirrors. New York: Viking Press.

Gibson, James L., Cornelius L. Cotter, John F. Bibby, Robert J. Huckshorn (1985) "Whither the Local Parties? A Cross-Sectional and Longitudinal Analysis of the Strength of Party Organizations." American Journal of Political Science 29: 139-160.

Granberg Donald and Soren Holmberg (1990) "The Berelson Paradox Reconsidered." Public Opinion Quarterly 54: 530-551.

Guerrant, Daniel G. (1990) "The Changin Impact of Vote Determinants During the Primary Season." Paper presented at the 1990 Annual Meetings of the Southern Political Science Association. Atlanta, GA.

Hinich, Melvin J. and W. Pollard (1981) "A New Approach to the Spatial Theory of Electoral Competition." American Journal of Political Science 25: 323- 341.

Huckfeldt, Robert and John Sprague (1987) "Networks in Context: The Social Flow of Political Information." American Political Science Review 81: 1197-1216.

Hunt, Albert R. (1981) "The Campaign and the Issues." In Austin Ranney (Editor) The American Elections of 1980. Washington, D.C.: American Enterprise Institute.

Jacoby, William G. (1988) "Variation in the Public's Candidate Perceptions: The Impact of a Presidential Campaign." Paper presented at the 1988 Annual Meetings of the American Political Science Association. Washington D.C.

----- (1989) "The General Euclidean Model: Applications in Political Science." Paper presented at the 1989 Annual Meetings of the American Political Science Association. Atlanta, GA.

----- (1991) Data Theory and Dimensional Analysis. Newbury Park, CA: Sage.

Kelley, Stanley Jr. (1983) Interpreting Elections. Princeton, NJ: Princeton University Press.

Kessel, John H., (1988) Presidential Campaign Politics: Coalition Strategies and Citizen Response (3rd Ed.). Chicago: Dorsey.

Klapper, Joseph T. (1960) The Effects of Mass Communication. New York: The Free Press.

Lazarsfeld, Paul, Bernard Berelson, Hazel Gaudet (1968) The People's Choice. New York: Columbia University Press.

MacDonald, Stuart Elaine, James Prothro, George Rabinowitz, Keith Brown (1988) "Political Evocation and Styles of Candidate Evaluation." Political Behavior 10: 117-135.

MacKuen, Michael (1984) "Exposure to Information, Belief Integration, and Individual Responsiveness to Agenda Change." American Political Science Review 78: 372-391.

MacKuen, Michael and Courtney Brown (1987) "Political Context and Attitude Change." American Political Science Review 81: 471-490.

McDonald, Michael D. and Susan Howell (1983) "Reconsidering the Reconceptualizations of Party Identification." Political Methodology 10: 73-91.

Markus, Gregory B. (1982) "Political Attitudes During an Election Year: A Report on the 1980 NES Panel Study." American Political Science Review 76: 538-560.

Miller, Arthur H., Martin P. Wattenberg, Oksana Malanchuk (1986) "Schematic Assessments of Presidential Candidates." American Political Science Review 80: 521-540.

Miller, Warren E. and J. Merrill Shanks (1982) "Policy Directions and Presidential Leadership: Alternative Interpretations of the 1980 Presidential Election." British Journal of Political Science 12: 299-356.

Norrander, Barbara (1986) "Correlates of Vote Choice in the 1980 Presidential Primaries." Journal of Politics 48: 156-166.

Page, Benjamin I. (1978) Choices and Echoes in Presidential Elections. Chicago: University of Chicago Press.

Patterson, Thomas (1980) The Mass Media Election. New York: Praeger.

Patterson, Thomas E. and Robert D. McClure (1976) The Unseeing Eye: The Myth of Television Power in National Elections. New York: Putnam.

Plotkin, Henry A. (1981) "Issues in the Presidential Campaign." In Gerald Pomper and Colleagues, The Election of 1980: Reports and Interpretations. Chatham, NJ: Chatham House.

Pomper, Gerald M. (1981) "The Presidential Election." In Gerald Pomper and Colleagues, The Election of 1980: Reports and Interpretations. Chatham, NJ: Chatham House.

Poole, Keith and Howard Rosenthal (1984) "U.S. Presidential Elections, 1960-1980: A Spatial Analysis." American Journal of Political Science 28: 282-312.

Rabinowitz, George B. (1973) Spatial Models of Electoral Choice: An Empirical analysis. Chapel Hill, NC: Institute for Research in Social Science.

----- (1976) "A Procedure for Ordering Object Pairs Consistent with the Multidimensional Unfolding Model." Psychometrika 45: 349-373.

Riker, William H. and Peter C. Ordeshook (1973) An Introduction to Positive Political Theory. Englewood Cliffs, NJ: Prentice-Hall.

Robinson, Michael J. and Margaret Sheehan (1980) "How the Networks Learned to Love the Issues." Washington Journalism Review 2: 15-17.

----- (1983) Over the Wire and on TV: CBS and UPI in Campaign '80. New York: Russell Sage Foundation.

Rossi, Peter H. (1959) "Four Landmarks in Voting Research." In Eugene Burdick and Arthur J. Brodbeck (Editors) American Voting Behavior. Glencoe, IL: Free Press.

Salmore, Stephen A. and Barbara G. Salmore (1985) Candidates, Parties, and Campaigns. Washington, D.C.: CQ Press.

Shively, W. Phillips (1980) "The Nature of Party Identification: A Review of Recent Developments." In John C. Pierce and John L. Sullivan (Editors) The Electorate Reconsidered. Beverly Hills, CA: Sage.

Sundquist, James L. (1983) Dynamics of the Party System (Revised Edition). Washington, D.C.: Brookings.

Young, Forrest W. and Robert Hamer (1987) Multidimensional Scaling: History, Theory and Applications. Hillsdale, NJ: Lawrence Erlbaum.

Young, Forrest W. and Rostyslaw Lewyckyj (1979) ALSCAL-4 User's Guide (Second Edition). Chapel Hill, NC: Data Analysis and Theory Associates.

Table 1: Correlations Between Changes in Preferential Choices and Other Characteristics

	January-June	June-September
Individual-Level Characteristics*		
Interest in campaign	0.09	0.11
Talk to others about election?	-.12	-.16
Care about election result?	-.05	-.09
Environmental Characteristic**		
Percentage nonmissing thermometer ratings	0.41	0.87

Note: Table entries are Pearson product-moment correlations.

*Individual-level correlations are calculated between each person's responses to respective survey items, and the proportion of that person's preferential choices that change from one panel wave to the next.

**Environmental-level correlations are calculated between the percentage of nonmissing thermometer ratings for each candidate, and the total number of preferential choices involving that candidate which change from one panel wave to the next.

Table 2: Summary Statistics for Individual-Level Goodness-of-Fit Statistics From External Unfolding Analysis

	Stationary Ideal Point Model (SIP)	Moving Ideal Point Model (MIP)
Minimum Value	-.132	-.681
Maximum Value	0.917	0.926
Mean	0.287	0.0.260
Standard Deviation	0.225	0.309
Number of Observations	392	392

Note: All table entries are adjusted R^2 values obtained from fitting the external preference models to each respondents vector of feeling thermometer responses and the previously-derived set of candidate coordinates.

Source: 1980 CPS National Election Study, Major Panel Component

Table 3: Frequency Distribution for Probabilities That Ideal Points Remain Stationary Across the Three Time Points

Probabilities	Percentage of Observations
0.00 - 0.05	7.15%
0.06 - 0.10	3.83
0.11 - 0.15	4.34
0.16 - 0.20	3.57
0.21 - 0.25	6.38
0.26 - 0.30	3.57
0.31 - 0.35	3.57
0.36 - 0.40	3.06
0.41 - 0.45	2.30
0.46 - 0.50	3.83
0.51 - 0.55	3.57
0.56 - 0.60	2.55
0.61 - 0.65	5.61
0.66 - 0.70	5.87
0.71 - 0.75	2.30
0.76 - 0.80	5.10
0.81 - 0.85	6.89
0.86 - 0.90	6.12
0.91 - 0.95	8.42
0.96 - 1.00	11.99
Total	100.02%

Number of Observations: 392

Source: External unfolding analysis carried out using feeling thermometer responses and WMDS candidate configuration from the 1980 CPS National Election Study Major Panel Component.

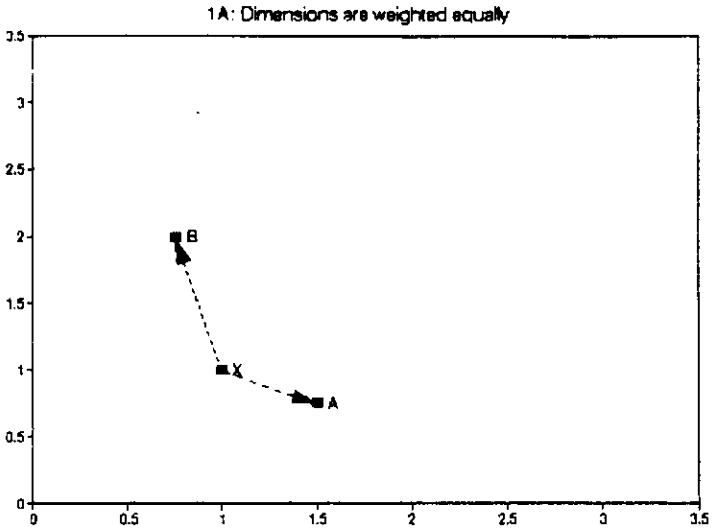
Table 4: Regression Analysis of Influences on Ideal Point Movements

Independent Variable	Regression Coefficient	Standardized Regression Coefficient
Interest in campaign	0.094 (0.314)	0.039
Information about campaign	0.014 (0.225)	0.009
Care about election outcome	0.177 (0.337)	0.030
Media use	0.071 (0.157)	0.024
Reliance on television	-.355 (0.405)	-.057
Reliance on newspapers	-.626 (0.438)	-.089
Strength of partisanship	0.070 (0.207)	0.023
Strength of independence	0.024 (0.068)	0.023
Change in knowledge about candidates	-.011 (0.009)	-.065
Less than high school education	-.205 (0.419)	-.027
Education beyond high school	0.473 (0.293)	0.094
Informal discussions with others	0.478 (0.158)	0.174
Party contact or attending meetings	-.900 (0.395)	-.122
Intercept	-.594	
R^2	0.061	

Note: Table entries are OLS estimates obtained by regressing the logit of the ideal point movement probabilities on the independent variables.

Source: External unfolding analysis results and 1980 CPS National Election Study, Major Panel Component

Figure 1: The Effect of Changing Dimension Weights on Individual Preferential Choices Among Candidates



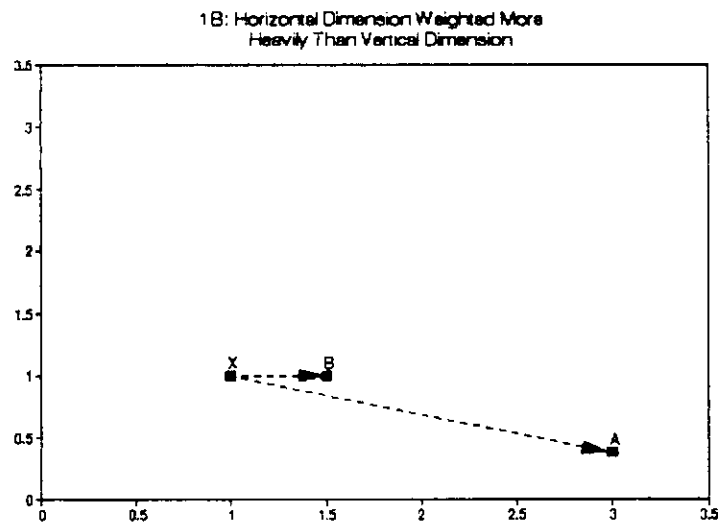
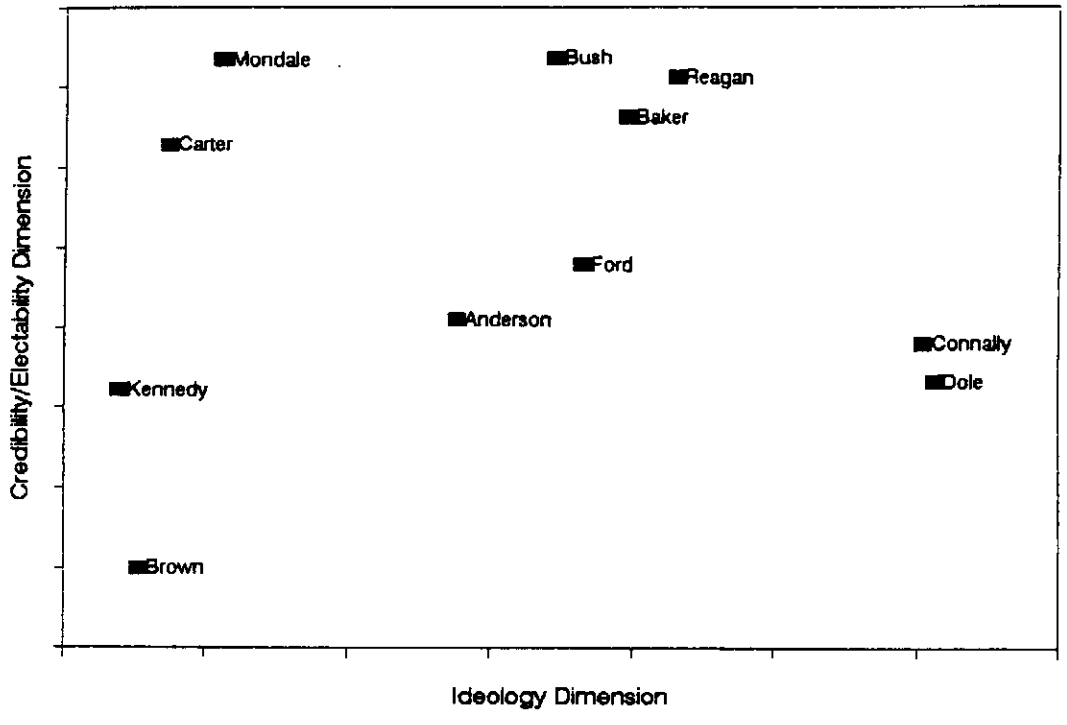
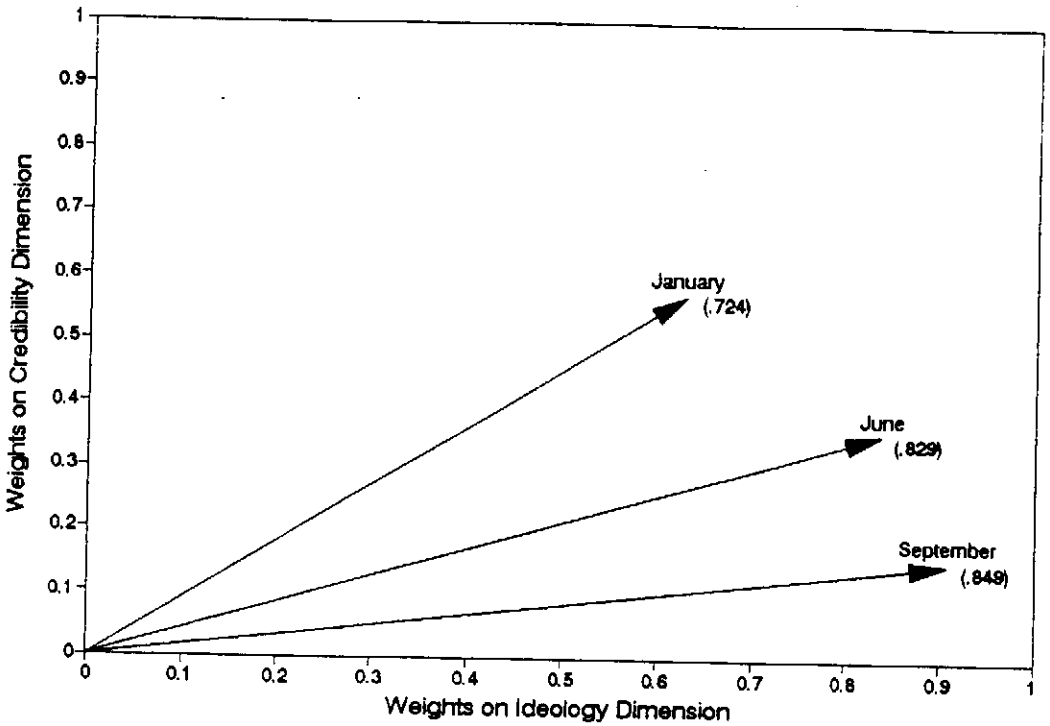


Figure 2: Two-Dimensional Candidate Configuration Obtained from the Weighted Multidimensional Scaling Analysis.



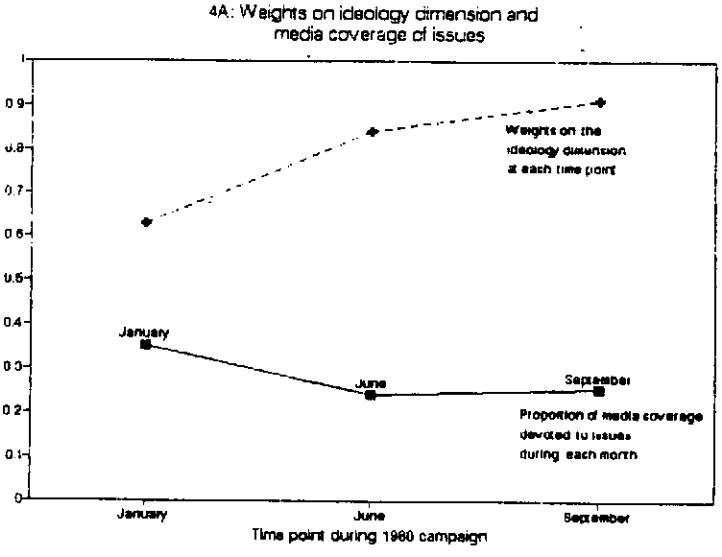
Source: CPS 1980 National Election Study, Major Panel Component.

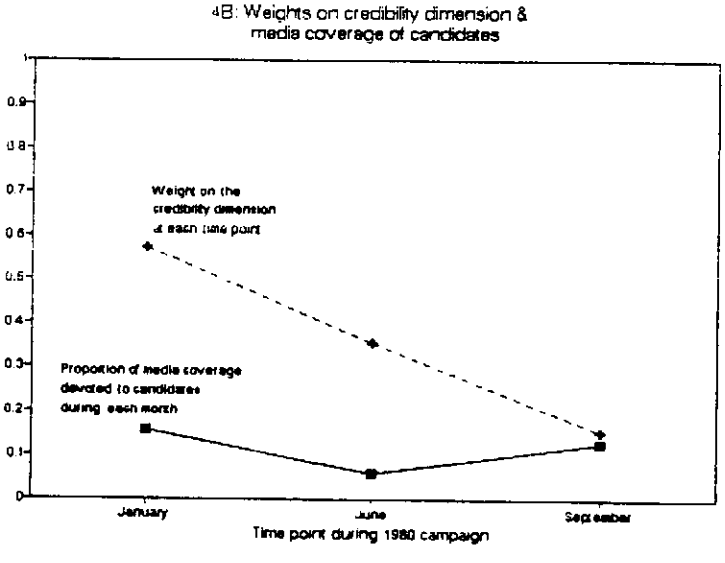
Figure 3: Dimension Weights for the 1980 Candidate Configuration



Source: WMDS analysis based upon data from the CPS 1980 National Election Study, Major Panel Component.

Figure 4: Dimension Weights and Media Coverage During the 1980 Campaign





Source: CPS 1980 National Election Study and Robinson and Sheehan (1980).