PROSPECTUS

Partisan Attitude, Party Identification, and Voter Choice: An Exploration of a Cuing Model Approach

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October 30, 1977

ABSTRACT

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We propose a simple model of voter choice based on majority preponderance of conflicting cues which is very similar to that offered by Fishbein (1963, 1966), Fisbhbein and Coombs (1971), Brody and Page (1973) and Kelly and Mirer (1974). We then show how this model can be extended to cover the case where our knowledge of all the factors underlying voter choice is incomplete, by using the information we have on voter cues to generate a probabilistic prediction as to voter choice. We then further extend this model to take into account the effect of partisan identification as a kind of "stare decisis" bias, and then look at another potential impact of partisan identification -- a cognitive bias toward misperception and/or selective retention of choice-relevant cues.

The model of voter choice standard in the rational choice modelling literature (eg. Downs, 1957; Riker and Ordeshook, 1968) posits that a voter chooses that alternative (candidate/party) with the highest expected value.[1] Similarly, in the spatial modelling literature a voter's most preferred candidate is the one which lies closest to the voter's ideal point in some choice space (eg. Davis, Hinich, and Ordeshook, 1971; Riker and Ordeshook, 1973). With a handful of exceptions (most notably Hinich, 1977), rational choice models of voter behavior are deterministic in nature--once a voter has identified his most preferred alternative he is assumed to vote for that most preferred choice with probability one.[2]

In the psychological literature on individual choice behavior, deterministic models also predominate.[3] One powerful tradition stems from the work of Fishbein (1963, 1966). Fishbein considers a dichotomous choice situation (such as a two-candidate election, candidates A or B but not both) where each individual has a number of factors (f_i) relevant to his choice. Some of these factors are assumed to predispose him to choose A while other factors predispose him to choose B, but not all factors need be of equal importance. Rather, to each factor f_i is assigned a weight w_i, where, for convenience, we may normalize such that $\sum_i w_i = 1$. Fishbein postulates a linear additive model in which factors may be thought of as elements with signed valences. A positive valence is taken (arbitrarily) to be a predisposition toward choice of A. The individual chooses A if $\sum_i w_i f_i > 0$; if $\sum_i w_i f_i < 0$ he chooses B. In the event of a zero value to the summand, the actor is considered to be indifferent between the two choices.

Analogous models have been offered in the person perception and information processing literature, although alternative models also exist. (For discussion, see Gollob, Rossman and Abelson, 1973; Anderson, 1974; and Anderson and Birnbaum, 1976.)

The Fishbein model has been applied by Fishbein and Coombs (1971) and Reynolds (1972) to voting behavior in U.S. Presidential elections. Although not explicitly derived from this research tradition, a model virtually identical to that of Fishbein, except for the use of party identification to break ties, is used by Brody and Page (1973) and by Kelley and Mirer (1974). Kelley and Mirer (1974) are able to correctly predict the choices of 88% of the non-abstaining voters in 1952-1964 U.S. Presidential elections, while Brody and Page (1973) correctly predict choices for 90% of the voters in the 1968 U.S. Presidential election.

In this paper we present a simple deterministic model of voter choice, which is very similar in its conceptual underpinnings to the Fishbein model. We then show how this model can be used to handle the cases where our knowledge of all the factors underlying voter choice is incomplete, by using the information we have on voter cues to generate a probabilistic prediction as to voter choice. We then extend this model to take into account the effect of partisan identification as a "stare decisis" bias, and then look at partisan identification as a cognitive bias toward misperception of cues.

II. The Basic Model

Define

$$F_A = \sum_{f_i \geq 0} w_i f_i \,, \qquad (2)$$

$$F_B = \sum_{f_i \leq 0} w_i f_i$$

In Fishbein's model, if $F_A > F_B$ the actor should choose A; if $F_B < F_A$ should choose B; and if $F_A = F_B$, the actor is indifferent

Let us set

$$p = \frac{F_A}{F_A + F_B} \qquad (3)$$

We may think of p as the fraction of (weighted) factors in the environments which predispose the actor toward choice of A. Similarly $1 - p = \frac{F_B}{F_A + F_B}$ gives the fraction of (weighted) factors which predispose the actor toward choice of B. We may think of this fraction as a true population parameter which individuals estimate by sampling factors from their environment. Individuals choice is still postulated to be in accord with the Fishbein model but, because individuals are sampling only a limited number of cues (factors), the nature of the sampling process determines the probabilities that F_A will be perceived of as larger than F_B for given values of p. To make this model more specific let us postulate:

(a) that the individual is sampling from an environment with a fraction p positive (eg. Democratic) cues and a fraction 1 - p negative (eg. Republican) cues.

(b) that the individual chooses to vote Democratic (Republican) depending upon whether or not a majority of the cues sampled are Democratic (Republican).

(c) that he samples N cues. (For simplicity assume N odd.)

Result 1 (Condorcet Jury Theorem): The relationship between p and the probability of voting Democratic given N cues sampled (denoted p_{N_D}) is given by

$$p_{N_D} = \sum_{h=\frac{N+1}{2}}^{N} \binom{N}{h} p^h (1-p)^{N-h} \qquad (4)$$

and

$$p_{N_D} \rightarrow \begin{cases} 1 \text{ as } N \rightarrow \infty \text{ if } p > \frac{1}{2} \\ \frac{1}{2} \text{ for all } N \text{ if } p = \frac{1}{2} \\ 0 \text{ as } N \rightarrow \infty \text{ if } p < \frac{1}{2} \end{cases} \qquad (5)$$

Values of p_{N_D} for various values of p and N are given in Table 1.

(Table 1 about here)

The probability that a voter will vote Democratic is a function of the percentage (p) of Democratic cues in his environment and the number (N) of cues sampled.

Note that, for given p, as the number of cues sampled increases, if $p > \frac{1}{2}$ the probability that the individual will choose to vote Democratic gets closer and closer to 1 while if $p < \frac{1}{2}$ the probability that the individual will choose to vote Democratic gets closer and closer to 0. This relationship for various values of p and N is graphed in Figure 1. (Data drawn from Table 1.) As we see, the graph is an S-shaped curve.

Using the normal approximation to the binomial, we may approximate the formula of Expression (4) as

$$p_{N_D} = \Phi\left(\frac{p-.5}{\sqrt{\frac{p(1-p)}{N}}}\right) \qquad (6)$$

where Φ is the area under a normal curve from $-\infty$ to p. In other works, we approximate the binomial by a normal distribution with mean p and variance equal to $\frac{p(1-p)}{N}$ = the variance of a binomial distribution of mean p. (See Grofman, 1975, 1977a forthcoming.)

The model we have specified requires that all individuals either vote Democratic or vote Republican, as the majority of their cues incline them, except where there is a tie. We now wish to expand this model to permit for the impact of party identification. We shall once again assume (a) and (b) as above, but shall replace (b) with (b′).

(b′) An individual chooses to vote Democratic (Republican) whenever at least p' ($p' \geq \frac{1}{2}$) of the cues sampled are Democratic (Republican). Whenever it is true both that less than p' of the cues sampled are Democratic cues and that less than p' of the cues sampled are Republican cues, the individual uses his party identification to determine his vote.

In other words, we assume individuals require a "safety margin" before they vote for a party other than that congruent with their party ID. If a sufficient preponderance of cues on one side or the other is not obtained, the individual makes use of a rule akin to "stare decisis" and follows his previous partisan inclinations.

Using the normal approximation to the binomial, we may express the relationship between p, p', and the probability of voting Democratic without recourse to party ID given N cues sampled, which probability we shall denote as $p_{N_{D_{p'}}}$ is given by

$$p_{N_{D_{p'}}} = \Phi\left(\frac{p-p'}{\sqrt{\frac{p(1-p)}{N}}}\right) \tag{7}$$

The analogous probability of voting Republican is simply

$$p_{N_{R_{p'}}} = \Phi\left(\frac{1-p-p'}{\sqrt{\frac{p(1-p)}{N}}}\right) \tag{8}$$

The probability that party ID will be called in to play to determine the individual's vote, which probability we shall denote $p_{N_{I_{p'}}}$, is simply one minus the expression in (6) and (7) above, i.e.

$$p_{N_{I_{p'}}} = 1 - \Phi\left(\frac{p-p'}{\sqrt{\frac{p(1-p)}{N}}}\right) - \Phi\left(\frac{1-p-p'}{\sqrt{\frac{p(1-p)}{N}}}\right)$$

Result 2:

$$p_{N_{D_{p'}}} \to \begin{cases} 1 \text{ as } N \to \infty \text{ if } p > p' \\ 0 \text{ as } N \to \infty \text{ if } 1 - p' < p < p' \\ \frac{1}{2} \text{ as } N \to \infty \text{ if } p = p' \end{cases} \qquad (10)$$

and

$$p_{N_{I_{p'}}} \to \begin{cases} 0 \text{ as } N \to \infty \text{ if } p \geqq p' \text{ or } p \leq 1 - p' \\ 1 \text{ as } N \to \infty \text{ if } 1 - p' < p < p' \end{cases} \qquad (11)$$

A proof of result 2 follows readily from inspection of expressions (6) and (8) and knowledge of the asymptotic properties of the normal distribution. Result 1 may, of course, be regarded simply as a special case of Result 2, with $p' = \frac{1}{2}$.

For all p' $(p' \geq \frac{1}{2})$ the graph of the relationship between $p_{N_{D_{p'}}}$ and p is an S-shaped curve (like the graph of the relationship between $p_{N_{D_{\frac{1}{2}}}}$ and p). Of course, the slope of this curve depends on p' and N as does the value of the intercept at $p = .50$. For all p', the graph of the relationship between $p_{N_{I_{p'}}}$ and p is a bell-shaped curve with maximum at $p = \frac{1}{2}$. The dispersion of this graph ground its mean $(p = .5)$ varies with p' and N. The lower p' the more tightly clustered are values around $p = .5$. The higher N, the greater the maximum of the curve. Of course, this maximum has a limit of 1, which it approaches as $n \to \infty$; the higher p', the more rapidly the maximum value of the function approaches 1 as N increases.

In our S-curve model, p measures the propensity to vote Democratic. The higher the p (for fixed p' and N) the higher the probability of voting Democratic. However, this relation is not a linear one. In our model, p' has a role very similar to that of net decision cost $(C-D)$ in the Dowsian model. In that model if the voter's expected benefit from voting for preferred candidate fails to exceed his expected net decision cost, he abstains. In our model, if the voter's received difference between the two candidates fails to exceed some specified margin, he votes party ID. The higher a voter's p' (for fixed N and P), the greater the likelihood of his using party ID to determine his vote. It is also the case that the higher a voter's p (for fixed N and p), the more likely he is to vote consistently with his party ID.

The interpretation of N is also straightforward. Presumably there are a large number of cues which might influence an individual's vote. Our model assumes that not all these cues are sampled. The more cues sampled the more likely is it that the picture in the voter's head will be an accurate reflection of the actual universe of potential cues. Thus, for a voter with $p > \frac{1}{2}$ ($p < \frac{1}{2}$), the higher is his N (for fixed p' and p), the more likely it is that the voter will vote Democratic (Republican). For voters with $p > p'$ ($1 - p > p'$) the probability of voting Democratic (Republican) approaches 1 as the number of cues sampled increases. In other words, for voters whose universe of potential cues would predispose them to vote Democratic (Republican), the more accurately that universe is sampled, the more predictable their vote becomes. For voters who are in the in-between (cross-pressured) zone, having a universe of cues inclined sufficiently toward neither the Republican nor the Democratic side, the fewer the cues sampled the greater the likelihood of an error in partisan choice due to "sampling" error. By setting a high value of p', the voter's possibility of such "sampling" error can be reduced, but only at the cost of sometimes failing to vote for the party which an accurate perception of p would impel him toward.

III. Empirical Explorations

We shall offer a preliminary approach to testing the predictions of our probabilistic predictions of voter choice via the Michigan Survey Research Center "partisan attitude" scale, which we shall use both as an estimate of the true percentage of Democratic and Republican cues in the potential voter's decision-relevant environment, and as an estimate of the number of cues the individual samples.

The variable partisan attitude (PA) (more commonly called respondent's partisan attitude (RPA)) has been operationalized in a variety of ways. The most common of these (Stokes, Campbell and Miller, 1958; Stokes, 1966; Kelley and Mirer, 1974), and the one which we ourselves used in our previous work in this area (Grofman and Mackelprang, 1974; Mackelprang, Grofman and Thomas, 1975) involves responses toward eight open-ended questions. "What do you like (L)/dislike (D) about the Republican (R)/Democratic (D) party (P)/candidate (C)," with the respondent allowed up to five responses per question; and with PA defined as follows:

$$PA = LRP+LRC+DDP+DDC-LDP-LDC-DRP-DRC+20 \qquad (12)$$

Respondent's may indicate up to 20 pro-Republican and anti-Democratic/pro-Democratic and anti-Republican cues. The net balance of pro-Republican and anti-Democratic over pro-Democratic and anti-Republican cues is taken to be the respondent's partisan attitude on a +20 to -20 scale and is then normalized by the addition of a 20 point constant to derive the 40 point PA scale customarily used.[3]

The primary advantage of PA over many of the usual indices of issue voting is that it allows the respondent to choose his own cues, rather than assume that some given set of issues is salient for all voters. If some factor in the PA scale is not salient to the voter we may anticipate that he will be unlikely to be able to specify favorable or unfavorable items for it. Like Kelley and Mirer (1974) and other earlier authors we have chosen to weight equally all responses to the questions in the PA scale and to assign all factors in that scale, whether positive or negative, an equal absolute weight.[4] This may seem a questionable practice, yet it has both venerable roots and support in recent work in cognitive psychology.

The venerable roots lie at least as deep as Benjamin Franklin's September 19, 1972 comments in a letter to his friend, Joseph Priestly (Bigelow, 1887: 522, cited in Wainer, 1974:17)

> I cannot, for want of sufficient premises, advise you what to determine, but if you please I will tell how . . . My way is to divide half a sheet of paper by a line into two columns, writing over the one Pro and over the other Con. Then, during three or four days' consideration, I put down under the different heads short hints of the different motives, that at different times occur to me for or against the measure. When I have thus got them all together in one view, I endeavor to estimate respective weights. . . (to) find at length where the balance lies . . . And, though the weight of reasons cannot be taken with precision of algebraic quantities, yet, when each is thus considered, separatively and comparatively, and the whole matter lies before me, I think I can judge better, and am less liable to make a rash step; and in fact I have found great advantage for this kind of equation, in what may be called moral or prudential algebra.

Recent work discussed in Wainer (1974), by Dawes and Corrigan (1974) and Einhorn and Hogarth (1974), provides evidence that frequently the most accurate weighting scheme in terms of predicting behavior is to merely count the actor's motives. This will be often more accurate than weightings derived from the actor's own evaluations as to the relative importance of the factors in his decision-making. Wainer (1974, p. 18) notes that this appears especially true if the prediction variables are intercorrelated highly. High intercorrelation among factors, of course, is exactly what we might anticipate to be the situation in the partisan attitude case. Wainer (1974:18-19, emphasis his, but we share it) goes on to celebrate the fact that making judgments as to what factors are important is "far easier" than assigning weights with respect to their relative importance! To have them be more accurate also (under many circumstances) is a double blessing."

We show in Figures 2 Partisan Attitude Scores for 1956 and 1960 U.S. Presidential elections plotted against percentage of two-party vote. As can be seen by inspection, the scatter of those points is far-better described by an S-shaped curve than by any linear regression line. Indeed, if we aggregate data across four presidential elections, as Kelley and Mirer (1974) do, we obtain an even more striking fit to smooth S-shaped curves. (See Kelley and Mirer, 1974, Figure 1:574).

The data we present in Figure 2 and the Kelley and Mirer (1974) findings we cite above must, however, be regarded as only suggestive. They do not provide a direct test of any of the "fine-tuning" aspects of our model. For example, our model makes predictions about the way voting behavior should vary as a function of N across partisan attitude scale categories. For a fixed value of partisan attitude, the higher a respondent's N value, the more likely should be a vote congruent with the direction specified by this PA scale value. Furthermore, other models (e.g., probit models (Aldrich and Cnudde, 1975) of which our model is a close relative, and logit models) also give rise to S-curve relationships. We would need to carefully compare fit of our predictions with those of alternative probabilistic frameworks before we could have any great confidence that the fit suggested by the data in Figure 2 was other than accidental.[5] In the full version of our paper we hope to do this. One other point: we have not yet resolved the question of how p' is to be estimated. One possibility would be to posit that p' varied directly with strength of party identity. This again, is an issue we hope to explore in the full version of our paper.

IV. The Role of Party Identification as a Perceptual Bias

Consider a dichotomous choice situation satisfying our original assumption (a) through (c) (or modified assumptions (a), (b)′, and (c)) as specified above. Let us now further assume that

(d) individuals exercise selective perception and/or selective retention, i.e., the conditional probability that a cue sampled will be seen/counted as Republican (Democratic) if it is Republican (Democratic) is $p_{RR}(p_{DD})$.

Clearly $p_{DD} = 1 - p_{RD}$, and $p_{RR} = 1 - p_{DR}$. Moreover, p_{DD} and p_{RR} need not be equal, nor need they both be equal to one.

Corollary to Result 1: For a given individual with selective perceptions/retentiveness given by p_{DD} and p_{RR}, the relationship between p and the probability of voting Democratic given N cues sampled is given by

$$p_{N_D} = \sum_{h=\frac{N+1}{2}}^{N} \left\langle \binom{N}{h} \left[pp_{DD} + (1-p)\,(1-p_{RR}) \right]^{h} \cdot \left[p(1-p_{DD}) + (1-p)p_{RR} \right]^{N-h} \right\rangle, \qquad (12)$$

Proof: The expression $pp_{DD} + (1-p)\,(1-p_{RR})$ simply gives the probability that a cue sampled will be soon/counted as Democratic; similarly $p(1-p_{DD}) + (1-p)\,p_{RR}$ gives the probability that a cue sampled will be seen/counted as Republican.

There are several special cases of interest:

<u>A</u>. $p_{DD} = p_{RR}$, i.e., the accuracy of perception /the likelihood of retention, does not vary with the nature of the cues or with the voter's own partisan attitude. In this case expression (12) reduces to

$$p_{N_D} = \sum_{h=\frac{N+1}{2}}^{N} \binom{N}{h} \left[2pp_{DD} + (1-p_{DD}-p) \right]^{h} \cdot \left[p + p_{DD} - 2pp_{DD} \right]^{N-h} \tag{13}$$

if $p_{DD} = 1$ then of course, expression (13) reduces directly back to expression (4).

<u>B</u>. $p_{DD} = 1$, $p_{RR} = p_{RR}(p_{RR} = 1,\ p_{DD} = p_{DD})$, i.e., Democratic (Republican) cues are always correctly perceived/counted; Republican (Democratic) cues only sometimes so. For Democratic identifiers under these assumptions, expression (12) reduces to

$$p_{N_D} = \sum_{h=\frac{N+1}{2}}^{N} \left\langle \binom{N}{h} \left[p + (1-p)\ (1-p_{RR}) \right]^{h} \cdot \left[(1-p)p_{RR} \right]^{N-h} \right\rangle$$

$$= \sum_{h=\frac{N+1}{2}}^{N} \binom{N}{h} \left[1 - (1-p)p_{RR} \right]^{h} \left[(1-p)r_{RR} \right]^{N-h} \tag{14}$$

For Republican identifiers, the formula is identical, with p_{DD} substituted for p_{RR}. Note that in this model the probability of misperceiving or failing to count cues favorable toward the candidate discrepant with one's party ID is invariant with respect to the voter's own Partisan Attitude.

<u>C</u>. $p_{DD} = 1$, $p_{RR} = 1 - p(p_{RR} = 1,\ p_{DD} = p)$. In this case, equation (12) becomes

$$p_{N_D} = \sum_{h=\frac{N+1}{2}}^{N} \binom{N}{h} \left[p(2-p) \right]^{h} \left[(1-p)^2 \right]^{N-h} \tag{15}$$

Here, misperception/bias in retention is a function of the voter's own partisan attitude; the more his partisan attitude is at variance with his party ID the less will the voter misperceive/fail to count the cues favorable to the party discrepant with his own party ID.

D. $p_{DD} = p_{DR}$, $p_{RR} = p_{RD}$, i.e., all cues have a certain probability of being seen/counted as Democratic or seen/counted as Republican, but these probabilities are independent of whether or not the cue actually is a Republican or actually is a Democratic cue. In this case (12) reduces to

$$p_{N_D} = \sum_{h=\frac{N+1}{2}}^{N} \binom{N}{h} (p_{DD})^h (1-p)^{N-h} \tag{16}$$

if $p_{DD} = p$ (i.e., $p_{RR} = 1-p$), then (16) becomes

$$p_{N_D} = \sum_{h=\frac{N+1}{2}}^{N} \binom{N}{h} p^h (1-p)^{N-h} \tag{17}$$

Note that this case is identical to the case where cues are always correctly perceived/are always counted in the decision (i.e., the case in which $p_{DD} - p_{RR} = 1$.) Hence a certain type of bias in perception/retention is identical in its effects to no bias at all.

We may think of p_{DD} and p_{RR} as filtering propensities which differentially affect the decision-relevant impact of pro-Republican or anti-Democratic vs. Pro-Democratic or anti-Republican cues. The strength of party identification may determine (at least in part) these selective perception/retention propensities, p_{DD} and p_{RR}. For example, if we measure the intensity of party identification in the usual way, the strong Democrats (strong Republicans) should have p_{DD} (p_{RR}) very close to 1. Similarly, strong Democrats (strong Republicans) should have p_{DR} (p_{RD}) > 0. On the other hand weak Democratic (weak Republican) identifiers should have $p_{DD}(p_{RR})$ less close to one and should have $p_{DR}(p_{RD})$ closer to 0 than strong party identifiers. Finally, we might hypothesize that either non-party identifiers would have $p_{DD} = p_{DR}$ (i.e., would conform to Model C) or would have $p_{RR} = p_{DD} = 1$ (i.e., would be 100% accurate in their perceptions). Thus, we distinguish between two kinds of independents, those with accurate perceptions/unbiased retention and those unable to differentiate between parties in terms of successfully identifying which cues belong to which party. It is important to note that under the assumptions specified above, both kinds of independents would behave identically with respect to probability of voting for the candidate of a given party.

If we think of p as being measured by PA as before, and treat p_{DD} and p_{RR} as functions of strength and direction of party identification (PI), then we would hypothesize that

Hypothesis 1: For any given value on the PA scale on the pro Republican (pro Democratic) side, the stronger the Republican (Democratic) Party identification the more likely is the individual to vote Republican (Democratic). (Of course, we are here assuming that the individual votes Democratic (Republican) according as a majority of cues sampled are Democratic (Republican)

However, this relationship (for fixed p_{DD}' and p_{RR}) will not be independent of p, since the impact of p_{DD} and p_{RR} on p_D depends upon p, even if p_{DD} or p_{RR} are not themselves direct functions of p. (See expression (12)). While p_{DD} declines monotonically with $1-p_{DD}$ and p_{RR} for all p', the closer p is to $\frac{1}{2}$, the greater the magnification of Republican (Democratic) vote propensities as p_{RR} (p_{DD}) increases. Thus, we hypothesize that

Hypothesis 2: The impact of strong Democratic (Republican) Party identification on Democratic (Republican) vote is greatest for individuals with PA close to the midpoint of the scale. For extreme partisans (PA values near 0 or 1), Party Identification should make relatively little difference in the percentage voting for the party congruent with their PA position. On the other hand, for those with PA values close to the midpoint of the PA scale, the percentage voting Republican (Democratic) should vary considerably across categories of Party Identification, in a direction congruent with Party Identification.

In the full version of our paper, we hope to examine data bearing on these hypotheses.

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Footnotes

[1]Of course, the list of available alternatives may include abstentions.

[2]This deterministic nature is characteristic even of approaches such as the Ferejohn-Fiorina (1974) minimax regret model which postulates voter decision rules other than expected utility-maximizing.

[3]In psychology, there is also a long tradition of probabilistic modelling of individual choice. One strong tradition stems from the work of Luce. (See e.g., Luce, 1956; Yellott, 1977 forthcoming, and citations therein.) In probabilistic models, choice of one's most preferred alternative is usually not certain, but is merely more probable than choice of any other less favored alternative. In probabilistic models of choice, there are consistency norms similar to the familiar transitivity (or quasi-transitivity) and connectedness assumptions on binary preference orderings, e.g., the strong stochastic transitivity requirement. Let $Px|xy$ denote the probability that x will be chosen from the $\{x,y\}$. If $\frac{1}{2} \le Px|xy < 1$ and $\frac{1}{2} \le Py|yz$, then strong stochastic transitivity requires

$$Px|xz \ge \max \left\langle Px|xy,\ Py|yz \right\rangle .$$

[4]Note that pro-Republican (pro-Democratic) cues are taken in this scale as equivalent to anti-Democratic (anti-Republican) cues. This feature may be regarded as somewhat suspect. The PA scale as operationalized above has one other feature which may be considered either an advantage or a defect: respondents who offer only a handful of responses must necessarily be located near the center (20) of the PA scale even if all or almost all of their cues are pro-Republican/pro-Democratic. On the one hand, this prevents wild fluctuations in PA position arising from additions or subtractions of one or two cues. On the other hand, it severely misrepresents the proportion of pro-Republican/pro-Democratic cues in subject's responses for those able to offer only a limited number of cues.

[5]Caveat: as long as more than half the voters with PA values above the midpoint vote Democratic and more than half the voters with PA values below the midpoint vote Republican, to maximize the number of correct-predictions it is necessary to predict that all voters above (below) the midpoint will vote Democratic (Republican). Attempting to predict individual voter behavior within each PA category via the hypothesized vote distribution for that category is inferior to all or none predicting. (The reader should assure himself that this is in fact, true. The fallacy of thinking otherwise is quite common and is known as the "probability matching" fallacy).

Table 1

Probable Positive Vote as a Function of Percentage of Positive Cues (p) and Number of Cues Sampled (N)

N/p	.2	.4	.5	.6	.8
1	.2000	.4000	.5000	.6000	.8000
3	.1040	.3520	.5000	.6480	.8960
5	.0580	.3174	.5000	.6826	.9420
7	.0335	.2858	.5000	.7102	.9666
9	.0196	.2666	.5000	.7334	.9804
11	.0116	.2466	.5000	.7534	.9884
13	.0070	.2288	.5000	.7712	.9930
15	.0042	.2132	.5000	.7868	.9958
17	.0026	.1990	.5000	.8010	.9974
19	.0016	.1860	.5000	.8140	.9984

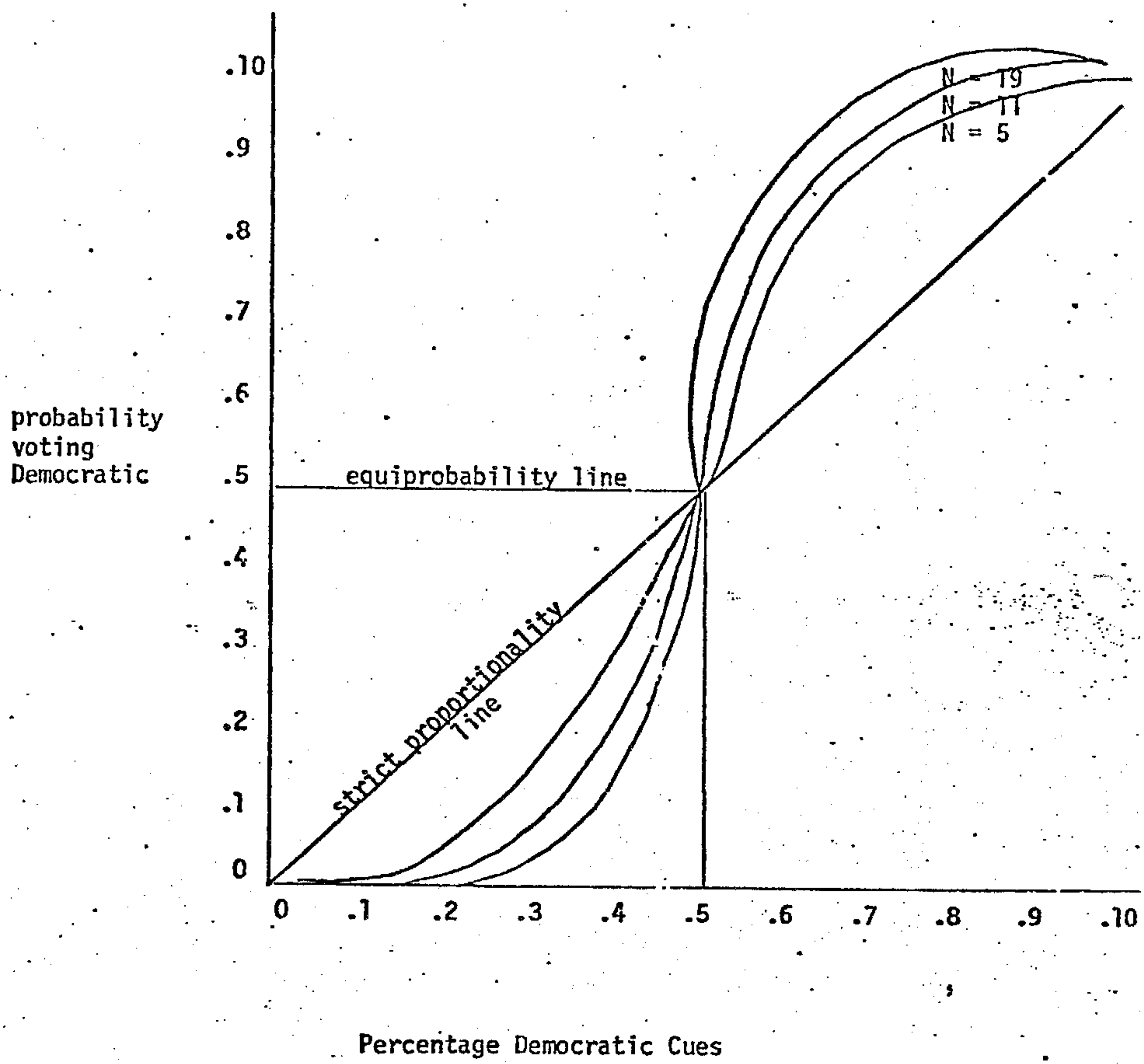
.10
.9
.8
.7
.6
.5
.4
.3
.2
.1
0
probability
voting
Democratic
equiprobability line
strict proportionality
line
N = 19
N = 11
N = 5
0
.1
.2
.3
.4
.5
.6
.7
.8
.9
.10
Percentage Democratic Cues

Figure 1