CONFERENCE ON ISSUE VOTING, COGNITIVE PROCESSES
AND RATIONAL CHOICE

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The primary concern of the January, 1978 Conference should be an enumeration of the important substantive questions in the areas of issue voting and electoral choice, the articulation of the models being developed to explore these questions, and the development of the best way to meet the models' data needs. If the Center for Political Studies, and the data collected there, are to be the national resource for those in political science and allied disciplines studying political attitudes and electoral behavior then considerable attention must be paid to defining in a broad context, the potential work of this research community. The Committee in general, and this conference in particular, should be developing better and more precise statements of the questions being studied, of the models being tested and estimated, and of the definition of the required variables.

The Committee is confronted with a particularly difficult task. On one hand the design of any survey and the collection of data should be guided by and derived from the theoretical models being studied. Although it has generally done so in this area in the past, data generation should not precede the statement of the model. The problem arises because the data to be collected from this effort is expected to serve a broad

and diverse set of interests and models. The limited re-
sources of the Center and of a single survey will constrain
the amount of information which can be collected. Conse-
quently it is imperative that we know precisely what data
is needed, identify the variables common to several models,
and be aware of what differences exist among variables which
might appear to be similar on the surface. These objectives
pose an enormous task.

The first job is to enumerate the different research
questions and models which will be based on Center data. The
Page-Sears memo lists some of these interests: (a) a concern
with people's positions on different issues, the determinants
of these positions, and the extent to which the positions
constitute an integrated structure for different individuals;
(b) the relative importance or salience of each issue; (c)
the way in which the candidates and parties are evaluated
and perceived on these issues, and the extent and source of
any systematic bias in these perceptions; and (d) the person's
probability of voting for one candidate or party. Although
it is the subject for another conference, I would add ques-
tions about the nature of party identification and its role
in effecting these other characteristics. These are also the
questions which interest me personally, but I suspect that
it is only a partial list of the concerns which others inter-
ested in issue voting would want to pursue. It will obviously be

impossible to enumerate, let alone identify, all of the
potential substantive questions, concepts, and models that
people will want to study in the near future, and I would
certainly not advocate that the conference try. However, it
is important to identify the currently popular and the
theoretically important ones.

Once the questions of substance interest have been identi-
fied, it is necessary to state the specific models being hypo-
thesized to study these questions. In many instances, re-
searchers will be concerned with explaining the same aspects
of electoral behavior, but will specify quite different ex-
planatory variables and relationships among variables. For
example, the work I am doing, links people's position on
different issues to their party identification, the issue
positions adopted by candidates and party leaders and ex-
ogenous variables based on the person's economic, geographic,
and social characteristics. (Hopefully, this list can be ex-
panded to include information about the area in which the per-
son resides, such as by integrating area census data with
the individual data collected by the Center.) Perceptions of
the party and candidate positions are related to the person's
party identification and own position on the issue and to any
exogenous variables which might lead to a strain for con-
sistency, such as Catholics wanting to perceive Kennedy in
a particular way in 1960. Party identifications are then de-

termined by the relative proximity of each party and candidate to the person's own positions and the extent to which this spatial evaluation differs from previous party identification. Finally, the probability of voting for one party or candidate is a function of the evaluation variable, party identification, and any exogenous variables which might make the person favor one candidate or party. (More specific yet still, preliminary versions of the hypotheses stated here are in Jackson, 1975a and 1975b.)

Models proposed by other researchers will hypothesize different relationships among the variables and specify alternative sets of explanatory factors. What the Conference must achieve is a precise articulation of the different models in order to rationalize the design of the questionnaire and the selection of a sample.

With the different models articulated, it should be possible to identify the common conceptual variables. A good example of this commonality is the emphasis on people's positions on different issues. It seems that there is an agreement, at least at the conceptual level, about what variable is being defined. The same may be said of the party and candidate perception variables, the vote variable, and many of the social, economic and demographic variables used to characterize each individual. The greater the commonality of con-

cepts, the easier and more efficient the data collection effort.

Precise models should also point out important variables which are not defined in similar ways, even though some terminology may sound the same. A prime example of this problem is the concept of party identification. We have continued with the seven-point scale for a long time now, but many of the models are postulating different concepts of party identification. The current variable implicitly assumes a linear, but ordinal, unidimensional progression from strong to weak Republicans, to Republican leaning Independents, to Independents, and so on to strong Democrats. This variable seems very close to the spatial conceptions in electoral research. Presumably, one is simulaneously becoming less Republican and more Democratic in any change in identification. It is not possible to vary one's identification with Republicans without implicitly reducing the identification with the Democrats. This conception of party identification may fit very nicely with the notions of choice implicit in the spatial models of electoral behavior or with a competitive psychological model in which voters can and will take cues from only one source and where the parties are competing for that role. However, if party identification is defined as some attachment to either a set of elites or to a set of positions presumably shared by party members, one could

feel some varying identification with either, neither, or both of the parties and candidates. Further, both a balancing of favorable attachments to both parties and a strong dislike of both might lead one to classify himself as Independent, yet the implications for the role of party identification in shaping attitudes, in perceiving candidates and in voting will be quite different. Undoubtedly there are additional conceptualizations for the term "Party Identification," each with its own theoretical justification and role in the electoral process which must be explored. There will also be other concepts subject to alternative interpretations. It should be the function of the Conference to clarify concepts and carefully specify the structure of the models incorporating them.

Finally, there are some conceptual terms, such as, candidate personality, which are becoming interesting and popular, yet which seem to have no clear definition. These factors must be carefully identified, discussed and defined as well as integrated into the models of electoral behavior. Undoubtedly there are more such terms. I would simply point out that the Conference must be directed at identifying the different important conceptual terms in the various research interests, at making these identifications as specific as possible, and at noting the similarities and differences in the seeming comparable terms in the different models. The

most important contribution the Conference can make at this point is to force a complete articulation of the different models and concepts which researchers want to investigate. Without this articulation, the survey instrument will be the proverbial committee outcome and thus useful to no one.

The articulation of the concepts and models being hypothesized is only the first, albeit the most important, item which should be on the Conference agenda. The next problem, once the models and conceptual terms are specified is how to operationalize and construct the necessary measured variables. Part of this problem is conceptual. For example, we must decide what is meant by alternative definitions of party identification and what constitute candidates' personalities and how we might obtain accurate measures of those attributes. Secondly, we must admit the possibility of measurement error and the likelihood that no single variable or measure will be adequate from a statistical standpoint. Some current research (Achen, 1975; Jackson, 1975) finds a strong, stable set of relationships underlying the correlations between the responses to the close-ended issue questions and exogenous variables, between the responses to similar questions in the same survey, and between the responses to the same question in later surveys. These studies also find that a considerable portion of the variance in the responses is truly random and could be attributed to measurement error, as

well as to randomness in the respondents' attitudes
(or non-attitudes).

I want to give two illustrations which support the
measurement theory hypothesis, one of which also suggests
that neglect of this interpretation may lead to large under-
estimates of the true influence of issues. The first is
from the 1968 SRC Presidential election study and the ques-
tions about our Vietnam policy. In the pre-election survey,
respondents were asked:

> "Which of the following do you think we should
> do now in Vietnam?"
>
> a. Pull out entirely
> b. Keep our soldiers in Vietnam but try to end
>   the fighting
> c. Take a stronger stand, even if it means in-
>   vading North Vietnam
> d. Other, Don't know.

Thus, we have a three-point scale for measuring people's
positions in the Vietnam issue. In the post-election survey,
respondents were asked a similar question but given a seven-
point scale on which to locate their own position, with the
ends labeled in ways corresponding to responses A and C
in the pre-election question. For this analysis, responses
have been re-coded into a zero (stronger stand) to one (pull out)
range with don't know's (less than 10% of the sample) assigned
the value 0.5. From the standpoint of measurement theory,
the seven-point scale includes more gradations of opinion,
and thus will allow a more accurate assessment of people's

positions in the Vietnam issue. For example, with the three-point scale, how do we differentiate between those who want to pursue the current ground war against the Vietcong more vigorously, but do not want to invade North Vietnam from those who will invade the North? Or, where do we expect someone favoring a phased withdrawl of ground troops but leaving air support to place themselves on the three-point scale? Presumably, the seven-point scale permits these finer variations in opinion and should show less measurement error. (The seven-point scale is far from perfect, but should be better than the three-point scale.)

The structure examined here to model Vietnam positions and evaluate the two measures is that respondents' positions on the Vietnam issue are related to various exogenous characteristics, such as age, education, region of the country, and so on, and that these positions did not change during the period between the pre and post-election interviews. This true position model is written as:

$$Y = XB + U,$$

where Y is the true position, X the exogenous variables, and U a stochastic term indicating how true attitudes deviated from the systematic relationship with X. The measured responses to the two questions are then hypothesized to be a function of the true attitude and a stochastic term uniquely associated

with each response, such as a random measurement error is specified. Denoting Z_1 and Z_2 as the pre- and post-election interview responses, the three and seven-point scales respectively, we specify this measurement model as:

$$Z_1 = A_1 Y + e_1 \quad \text{(three-point scale)}$$

$$Z_2 = A_2 Y + e_2 \quad \text{(seven-point scale)}$$

We further specify A_1 to equal 1 to scale the unobserved variable Y and assume that e_1 and e_2 are uncorrelated. From the covariances between Z_1 and X and between Z_2 and X we can estimate B and A_2. Then, from the variances and covariances of the Z's, we can estimate the variances of U, e_1 and e_2. (See Jüreskog, 1973 and Hanushek and Jackson, 1977 for discussions of the estimation precedure.) One set of results of the estimation relevant to this discussion is that the estimate for A_2 is 0.98 and that the covariances between X and both Z are very similar, suggesting that both responses could have been generated by the same underlying structure. Secondly, the estimated variance of e_1 is 0.08 while the estimated variance of e_2 is 0.05. These estimated variances have two important implications for the Committee's task in structuring a questionaire to measure the concepts specified by the different models.

First, the differences in the two variances clearly indicate that how we design questions and the possible responses to them have important consequences for the statistical re-

liability of the resulting variables. Second, the magnitudes
of these variances, even the smaller one, imply considerable
non-systematic variance in the issue measures. These error
variances were about 60 and 50 percent of the total variance
in each response variable. If we interpret these error
terms as measurement error, then the use of either response
variable in any simple correlation (or partial correlation for
that matter) will reduce the expected correlations by 40
and 30 percent respectively.

The consequences of these possible measurement errors
may be substantively important. We know from statistical
theory that the presence of serious random error in an explana-
tory variable biases any estimated relationship involving that
variable towards zero and any estimated relationship involving
other variables correlated with the true variable upwards.
Thus simple, conventional statistical methods, such as regres-
sion and any measures of association, will understate the effects
of issue positions on other aspects of electoral behavior.
Hanushek and Jackson in their discussion of structural equa-
tions give graphical evidence of how these estimates might
change if one corrects for the bias resulting from the unsys-
tematic variances attributable to measurement error. In their
discussion of structural equation estimation using two-stage
least squares, they present an equation relating votes in the
1964 Presidential election to an issue evaluation variable an(

to party identification. The reason the two-stage least
squares estimates are interesting is the fact that this is a
commonly suggested remedy for overcoming the biases created
by random errors in the explanatory variables. (See Hanushek
and Jackson, 1977, Ch. 10) The method essentially relates
votes to the systematic components (purged of the random errors)
and thus should give a better estimate of the influence of
issues and parties on votes. The results estimated with the
error in variables correction (two-stage least squares) is com-
pared with the results using ordinary least squares, which
assumes that the measured variables are the true measures of
issue evaluations and party identifications. The results of
these two estimations are (Hanushek and Jackson, p. 242):

(1) $V = -0.07 + 0.90$ Evaluation $+ 0.31$ Party (two-stage least
$+0.26$ Indifferent · x Party   squares)

(2) $V = 0.07 + 0.39$ Evaluation $+ 0.61$ Party (ordinary least
$+0.12$ Indifferent x Party   squares)

We can see in these results very different conclusions about
the relative importance of issue evaluations in voting decisions
implied by the different estimation procedures, and implicitly
by the assumptions one wants to maintain about the accuracy of
our measures of issue positions, evaluations, and party I.D.
This result and other findings by Achen and Jackson about the
possible magnitudes of the unique question specific variances
(possibly measurement errors) in the close-ended SRC questions
ought to alert us to the possible presence of large measurement

errors in the survey method. There are several approaches
to dealing with this problem, such as research into better
question design and the inclusion of multiple measures of
the same concepts, and the Conference needs to spend time
considering some of these approaches.

The final problem confronting the Conference is the
identification of the various models. Most current work on
electoral behavior, and virtually all the interests outlined
in the Page-Sears memo, concern the estimation of multi-equa-
tion structural models. Additionally, once one poses the pro-
blem of measurement errors and unobserved variables, every
model becomes a multi-equation model. The estimation of these
structural models presents problems not commonly addressed
by researchers. (I should add that the use of ordinary least
squares, as in most path analyses, ignore these problems
since contrary to most work, the models are not recursive even
if they are hierarchical. See Hanushek and Jackson, Ch. 8.)
The most serious problem is that of identification. Estimation
of multi-equation models requires a substantial amount of
a priori information in the form of theoretical statements
about causal relationships. The difficulty arises because there
are an infinite number of models, with quite different implica-
tions, which are consistent with the observed data. The only
way to select from among this large number of alternative
structures is on the basis of a priori information. This in-

formation consists of specifications about the variables which are exogenous, the relationships among the endogenous variables, the direct relationships between the endogenous and exogenous variables, and the covariances of the error terms in the various equations. Specification of this a priori information is a demanding exercise and places great stress on the theoretical developments and justifications for the model being estimated and the selection and construction of variables. This problem cannot be avoided, however. Simple empirical methods and models are not a solution because they implicitly make very strong identifying assumptions, such as a hierarchical structure among the endogenous variables, no correlations among the error terms in the structural equations, and no measurement errors in the explanatory variables. The Conference, once it has articulated the various substantive questions of research interest, operationalized the conceptual variables, and dealt with the measurement problems, must decide if the resulting models are identified or there is no point in continuing with the data collection. Fortunately, if the identification problem is discovered prior to data collection, it is often possible to sufficiently expand the model and determine what additional information is necessary to fully identify the structure.

This memo indicates my interests in the work of the Committee and in the topics to be discussed at the January Conference.

The specific substantive interests and models on which my research focuses are covered in a series of papers presented in 1975. I have been continuing the development of the models and analyses discussed there and anticipate extending those efforts with more recent survey data.

Bibliography

Achen, Christopher, 1969, "Mass Political Altitudes and the Survey Response," *American Political Science Review*, Vol. 69, No. 4 (December, 1975), pp. 1218-1231.

Hanushek, Eric A. and Jackson, John E., *Statistical Methods for Social Scientists* (New York: Academic Press, 1977).

Jackson, John E., 1975a, "Issues, Party Choices and Presidential Votes," *American Journal of Political Science*, Vol. 19, No. 2 (May, 1975), pp. 161-185.

_____, 1975b, "Issues and Party Alignment," in L. Maisel and P. Sacks (eds.), *The Future of Political Parties* (Beverly Hills: Sage Publications, 1975), pp. 101-123.

_____, 1975c, "Modeling and Measuring Political Attitudes: A Question of Unobserved Variables," Paper presented to the 1975 Annual Meeting of the American Political Science Association, San Francisco, Ca., Sept. 1975.

Jöreskog, Karl, 1973, "A General Method for Estimating a Linear Structural Equation System," in A. S. Goldberger and O.D. Duncan (eds.), *Structural Equation Models in the Social Sciences* (New York: Seminar Press, 1973), pp. 85-112.