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ABSTRACT

A study was conducted to test identical models of the
political learning process with data concerning national and local
issues. These models hypothesized ways in which political learning
from mass media is affected by such factors as strength of
information flow, political system level, individual media exposure,
interpersonal discussion, membership in political groups, and
education. Personal interviews were conducted with 373 voting-age
subjects in which each respondent was asked to nominate a personally
important political problem. Each subject was also characterized by
the above factors. Content analysis of mass media coverage of
nominated problems at the national and local levels was conducted
during the two weeks before the interviewing. This analysis was used
to divide both the local and national issue-focused samples into
high- and low-coverage treatment groups. Results indicated that the
processes that govern political learning differ greatly according to
both the political system level and the level of mass media coverage.
In the high coverage/national issues treatment, only education among
the model's background variables retained a significant association
with information holding. In the low coverage/national issues
treatment, the previous patterns did not carry over; indicators of
recent exposure to information and other indicators of generalized
interest failed to show evidence of direct effects on information
holding. In the high coverage/local issues treatment, interpersonal
discussion emerged as the primary source of information holding. In
the low coverage/local issues treatment, the model was less
successful in explaining variation in information holding than it was
for the other three treatments. (DF)

PHILIP PALMGREEN

Mass Media Use

and Political Knowledge

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the University of Kentucky. This is his second contribution to
Journalism Monographs.

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A CENTRAL, concern of political com-
munication research in recent years has been the nature and extent
of learning that results from exposure to political information
through the mass media. Such learning is seen as a vital first step in
the development of political attitudes and behavior. The mass
media provide important information about candidates, issues, so-
cietal problems, proposed solutions to these problems and the like,
which then becomes the basis for deciding which candidate to vote
for, which solution to favor or which influence strategy to adopt.
Although the process of arriving at this decision is not always ra-
tional, individuals must possess some information before any de-
cision can be made. This information the mass media supply in
abundance.

There are important questions, however, concerning the extent
to which audience members learn from this available supply, and
the ways in which such learning is enhanced, mitigated or com-
plemented by such factors as the strength of information flow, po-
litical system level, individual media exposure levels, interpersonal
discussion, membership in political groups, political participation
and education.

Local vs. National

: While no previous study has attempted a simultaneous investiga-
tion of all these factors, some more modest research efforts have
been directed at the relationship between mass media use and po-
litical knowledge. Most have been concerned with national politics,
and in the main they have documented a link between mass media
exposure and political knowledge. While these studies demonstrate
only an association between the two variables,[1] certain experi-
mental, quasi-experimental and longitudinal investigations indi-
cate that media exposure affects knowledge, rather than the other
way around.[2]

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Few studies to date have concerned themselves with the relation-
ship between mass media use and knowledge of local political af-
fairs,[3] and it would seem hazardous to assume that identical learn-
ing processes exist at national and local levels. There are numerous
differences between them, including differences in the type and
scope of political problems, extent of mass media coverage, infor-
mation sources, and the kinds of individuals who are typically con-
cerned with one or the other.[4] Then, too, the ability of citizens to
witness many local problems firsthand may obviate the need to rely
on the media as "extensions of one's senses." The media may not be
needed to inform a citizen that street repair is a major community
problem; neighborhood interpersonal networks may be assumed to
carry such a message.

In light of these differences, a major purpose of the present study
was to test identical models of the political learning process with
data concerning both local and national issues. Such comparisons
are not easily made, however, as later discussion makes clear.

Coverage Levels

An additional dimension which may affect the acquisition of po-
litical information is the level of mass media coverage devoted to
various issues. Research on the "agenda-setting" function of the
media provides evidence that media influence on public percep-
tions of issue importance is a function of coverage levels,[5] and im-
plies a consequent influence over an individual's information seek-
ing behavior. We would expect a citizen to seek out more informa-
tion concerning issues and problems that are felt to be more impor-
tant, and that this knowledge gain should be reinforced in cyclical
fashion by the generally greater availability of information on these
issues. The agenda-setting function, then, would predict that media
would have a relatively stronger influence on high-coverage issues.[6]

Media coverage also has implications for the local-national di-
mension. National affairs tend to receive the lion's share of the cov-
erage in most daily newspapers and even more so on television, with
its national network ties. Thus in terms of sheer information avail-
ability we would expect higher levels of individual exposure to na-
tional than local political information, with consequent differences
in knowledge.

For these reasons we should expect political learning to vary with differing levels of media coverage of issues, problems and person- alities. No previous research has measured and controlled for cov- erage.

The present study investigates the effects of coverage levels by adopting a multi-issue approach. Each respondent is asked to nomi- nate a personally important political problem, which is then the focus of the interview. Content analysis of media coverage of these issues during the two weeks before the interviewing permitted the classification of respondents into high and low coverage groups at both the national and local levels. The same theoretical model was then tested with each of these four groups. Coverage differences were controlled at both political levels because the usual differences in local-national coverage could be confounded with level effects.

Other Predictors

Variables such as education, age, socioeconomic status, length of residence, membership in organizations, interest in politics, politi- cal participation and the individual's network of interpersonal rela- tionships have been shown to be associated with, if not causally related to, knowledge of political affairs. It would appear, then, that the role of the media can be placed in proper perspective only by considering it in conjunction with those factors which may have causal significance for both media behavior and the acquisition of political knowledge.

Most studies have simply examined the bivariate relationship be- tween media exposure and various measures of political knowledge. Some introduced theoretically relevant controls, but with two ex- ceptions these have involved only a single variable, usually socio- economic status (SES). Because of the large number of factors which seem to affect both media behavior and political learning, such results can be misleading, and the same may be said of blanket controls for a number of variables, whether imposed individually or in concert.[7] The controls selected should ideally be based on a theo- retical framework which specifies the relationships among the var- iables under consideration, both antecedent and consequent. In the absence of such explicit controls, we cannot be entirely certain that an observed relationship between media exposure and political

knowledge is not spurious. Data from the limited number of experimental and quasi-experimental studies in the area indicate otherwise but do not answer the question whether various communication, political and social variables make independent contributions to the outcome.

The answer does not lie in a "shotgun" multiple regression approach in which the predictive power of media use is weighed against that of other variables in a simple "inventory of causes." Instead, the present study focuses on the development of a theoretical structure to specify the effects of media use on political learning, taking account of the traditional predictors, while also mapping the interrelationships involved.

In Hyman's terms,[8] the goal was to formulate and test a well "interpreted" theory cast not in the usual verbal terms, but employing the simpler and more powerful causal model of Blalock, Duncan and others.[9] This technique permits a complex theoretical network to be tested as a system, rather than one proposition at a time.

A Model of the Antecedents of Political Knowledge

The model which ultimately emerged from a rather painstaking construction process is illustrated in Figure 1. Each single-headed arrow represents an hypothesized positive causal relationship; a double-headed curved arrow indicates a non-causal association. The model is *recursive* in that it assumes that there are no instances of bivariate mutual causality and contains no multi-variate feedback loops. Where a possible instance of the latter was suspected, the arrow in the model was drawn in the direction in which the dominant causal influence was thought to operate.

Blalock acknowledges that "such recursive systems might seem overly simplistic from the standpoint of building adequate theoretical models of complex reality," but adds, "I am convinced, however, that most analysis procedures currently used in sociology and political science are based on such models, though this is often not explicitly realized."[10] In any event, the introduction of two-way causation into the model would have caused serious problems in attempting to estimate the parameters of the model through standard path analysis. We would be left with insufficient information in the data to provide unique estimates of the unknown coefficients in the
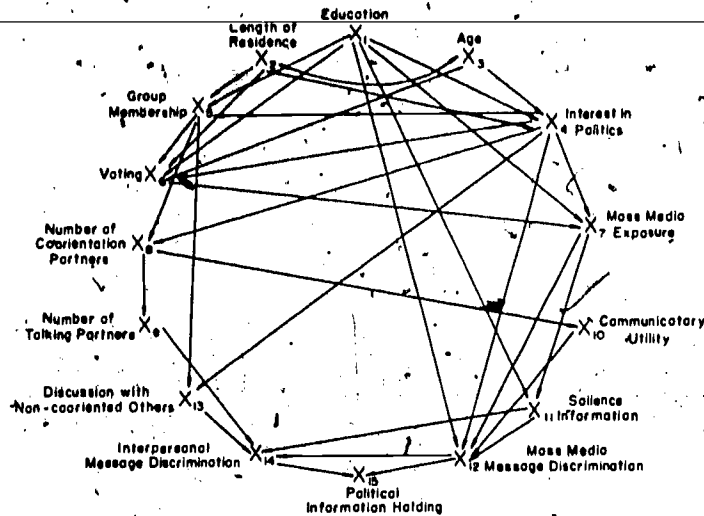
Figure 1
Model I: Antecedents of Political
Information Holding

simultaneous regression equations constituting the formal mathe-
matical model, a state of affairs known as the "identification prob-
lem." Two methods for meeting that problem were denied us. The
present state of theory does not permit us to specify precisely the
causal lag periods in the model, and there are not enough truly
exogenous variables that might be introduced. The introduction of
feedback would have led to insoluble methodological problems.
Thus, while it is recognized that the causal direction of certain
paths in the model are subject to alternative explanations, no real
methodological alternatives exist with a model of this complexity.
Any other technique (crosstabulation or partial correlation, for ex-
ample) would be subject to the same criticism, and would not pro-
vide all the necessary controls for spuriousness, an issue which is dis-
cussed below.

There is some similarity between this model and the "funnel of
causality" that Campbell, *et al.* used in *The American Voter* to ac-
count for voting decisions. In the model presented here such vari-
ables as education, age, group membership and voting are viewed
as relatively stable "background" factors which predict a host of

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more situationally changeable psychological and communication variables, which in turn are immediately antecedent to political information holding. Following the "funnel of causality" line of reasoning, we would expect that the psychological and communication variables account for more variance in knowledge (here termed "information holding") than do the various background factors, at least under high media coverage conditions, which should induce greater variability in the intervening communication variables. On the other hand, background factors should account for relatively more variance under low mass media coverage conditions.

Model I was constructed using the general procedures for formulating causal models advocated by Blalock.[12] It requires a careful reading of the literature, combined with a systematic listing of all important concepts or variables and theoretical propositions linking these variables. Where past studies offer conflicting evidence or are lacking, original theoretical linkages are hypothesized. When this was done, a path-by-path theoretical empirical rationale for the model emerged.

Because there are few studies at the level of local politics, most of the empirical support for many of the hypothesized relationships were drawn from national studies, although local-national differences are also discussed. (Operational definitions are given in the methodology section.)

1: $X_1 \rightarrow X_3$; $X_1 \rightarrow X_5$; $X_1 \rightarrow X_6$; $X_1 \rightarrow X_7$; $X_1 \rightarrow X_{11}$; $X_1 \rightarrow X_{12}$

Education, of course, is an indicator of more than just the length of time spent in a classroom under structured learning conditions; it brings with it a unique set of socializing experiences. As education increases, an individual's sphere of reference groups expands and differentiates, leading to greater frequency and diversity of interpersonal contacts. This increased opportunity for discussion of public affairs, when coupled with the greater interest in such affairs which formal classroom experiences tend to foster, is important to the development of political participation.

In terms of Model I; we would expect education (X_1) to be important in the development of interest in political matters (X_4).[13] The greater number and diversity of social contacts should lead to greater opportunities for becoming involved with politically oriented groups (X_5).[14]

We would also expect education to be positively related to politi-
cal participation as indexed by voting (X_s), an association consis-
tently supported by studies of national politics,[15] and at least one in-
vestigation of local politics.[16]

The development of communication skills through formal educa-
tion, should result in higher levels of total exposure to the mass
media for public affairs information (X_7), an association also well
documented.[17] The growth of cognitive skills fostered by education
should also be accompanied by an increase in ability to make sense
of a complicated pattern of events. In other words, more highly
educated individuals should be more skillful in discerning patterns
of cause and effect, including the perception of ways in which the
nominated problem affects one personally (i.e., "salience informa-
tion"— X_{11}).

More highly educated individuals also tend to possess greater
learning ability, particularly verbal learning, leading to the hy-
pothesis that more highly educated individuals should learn more
when exposed to mass media information and should recall more. It
is thus expected that level of education will be positively related to
the number of media messages respondents are able to recall (X_{12}).
This effect should be independent of mass media exposure (X_7).

2: $X_2 \rightarrow X_4$; $X_2 \rightarrow X_5$; $X_2 \rightarrow X_6$; $X_3 \rightarrow X_4$; $X_3 \rightarrow X_6$

Length of residence is an index of psychological investment in the
community, and community political affairs in particular. Long-
term residents should have a greater "stake" in the community, and
should therefore exhibit greater interest in local politics (X_4) and
higher levels of participation in local political affairs, as indexed
here by voting in local elections (X_6). On the other hand, length of
residence should not be significantly associated with interest or par-
ticipation in national political affairs. However, a number of
studies indicate that age is a correlate of voting in national elec-
tions.[18] This suggests that any relationship between length of resi-
dence and voting in national elections should disappear when age is
controlled. Similarly, although some data indicate that age is also
positively correlated with voting in local elections,[19] we would
expect any such correlation to disappear when length of residence is
controlled. Thus, once reciprocal controls for length of residence
and age are introduced, we would expect length of residence to

emerge as the more powerful predictor of interest in local politics, with age emerging as the stronger correlate at the national political level.

Finally, since the longer one lives in a particular community, the greater the opportunity for establishing social contacts, we should expect to find a relationship between length of residence and membership in political groups (X_4).

$$3: X_4 \to X_5; X_4 \to X_6; X_4 \to X_7; X_4 \to X_8; X_4 \to X_{12}; X_4 \to X_{13}$$

A generalized interest in political affairs would seem to be a prerequisite for many kinds of political activity, and in fact a number of studies have demonstrated the power of this construct as an intervening variable between certain demographic predictors on the one hand and diverse forms of political participation on the other.[10] It is hypothesized, therefore, that generalized interest in politics (local or national) is a determinant of membership in political groups (X_5).[11] Political interest should serve a similar facilitating function with respect to voting behavior (X_6).[12]

A common finding of political communication studies is the linkage between political interest and mass media exposure (X_7).[13] As Atkin, et al., have shown, the relationship is evidently reciprocal-to some extent, with interest in politics prompting exposure to the media and exposure leading to the strengthening of interest.[14] But it seems plausible that exposure to certain kinds of political information may also lead to a waning of interest. An "interest strengthening" hypothesis would assume that all political media experiences are somehow gratifying, or fulfill certain personality or decision-making needs. However, much political news may be negatively reinforcing. For example, much of the alienation fostered by Watergate may have been due to heavy media coverage which reminded us daily of gross violations of societal norms by political officials. While such media attention may have contributed to the subsequent "enforcement of social norms" that led to Richard Nixon's resignation, it may have produced in others a strong distaste for political affairs.[15] Positive and negative media experiences may therefore tend to cancel one another out where political interest is concerned. Model I therefore predicts a stronger positive relationship from political interest to mass media exposure than the other way around.

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Turning to the interpersonal sphere, political discussions fostered
by an interest in politics often lead the communicating parties to
form estimates of each other's views regarding political issues.
Greater interest in politics, therefore, should be associated with
greater numbers of "coorientation" partners (X_8) regarding politi-
cal issues. But we often engage in more superficial discussions which
do not allow us to arrive at some assessment of the other person's
viewpoint, so it is hypothesized that political interest will also lead
to discussion with others not cooriented towards the topic (X_{13}).
Finally, interest in politics should make political content in the mass
media more salient, thus leading to higher recall of mass media
content concerned with political issues (X_{12}).

$$4: X_5 \to X_6; \; X_5 \to X_8; \; X_5 \to X_{13}$$

Membership in politically-oriented groups should influence the
political actions of the group member in a number of ways. The
group redefines the limits of what is public and private for the indi-
vidual, restructures goals in political directions and provides means
for achieving these goals. Groups often reveal the political relevance
of events to the individual's personal situation, and group pressures
are often brought to bear in the direction of specific forms of politi-
cal action. It is not surprising, therefore, that group membership
(X_5) has been found to be one determinant of voting (X_6) in studies
at both the national and local political levels.[26]

Membership in political groups also provides the group member
with increased opportunities for the discussion of political topics.
This, as was mentioned above, should result in greater numbers of
coorientation partners (X_8) with regard to such topics. A similar im-
pact of group membership on discussion with non-cooriented others
(X_{13}) is also depicted in Model I.

$$5: X_6 \to X_7$$

The person who participates actively in the political process
should perceive political affairs information to be salient to this in-
volvement. Such individuals should thus monitor mass media chan-
nels for this information, which in turn should raise levels of total
media exposure.[27]

Of course the reverse sequence is possible: that exposure to the
media results in voters coming into contact with information about
political campaigns, which in turn stimulates them to vote. How-

ever, as Blumler and McLeod note, evidence for such a mobilizing effect has been mixed, and their own evidence would not seem to alter this conclusion appreciably.[28] They also argue that turnout should be affected most strongly by exposure to campaign informa- tion. Thus, although it is recognized that mass media exposure may under certain conditions influence a person to vote, it seems likely on both theoretical and empirical grounds that the reverse causal sequence can account for the greater portion of any observed asso- ciation between voting (as an indicator of political participation) and mass media exposure, particularly during non-campaign periods.

$$6: X_7 \to X_{11}; X_7 \to X_{12}$$

According to Lasswell, the mass media make sense of an other- wise confusing array of information by providing interpretation and analysis.[29] An important constituent of such "correlation" is the mapping of causal sequences which "explain" the events in ques- tion. Thus media exposure should increase one's awareness of the ways political problems affect one personally (i.e., "salience infor- mation" — X_{11}). Also, greater total newspaper and television ex- posure should increase the likelihood of encountering information on a particular political issue, as indexed by media message dis- crimination (X_{12}).

$$7: X_8 \to X_{10}; X_{10} \to X_{12}; X_8 \to X_9; X_9 \to X_{14}; X_{13} \to X_{14}$$

Coorientation partners are individuals (usually personal acquain- tances) who are oriented toward the same psychological object, in this case a political issue.[30] Since people most often discuss topics with those perceived to share common interests, we would expect a high proportion of an individual's coorientation partners also to be "talking partners" (people with whom a topic was recently dis- cussed.) In turn, the number of talking partners (X_9), as an indi- cator of frequency of discussion, should be related to interpersonal message discrimination (X_{14}), or the number of messages about the issue which the respondent can recall having encountered recently in interpersonal channels. Similarly, discussion with non-cooriented others (X_{13}) may be expected to contribute (although less strongly) to interpersonal message discrimination. X_{13} does not contribute di- rectly to X_9 (number of talking partners) since talking partners are

defined here as *cooriented* others with whom the respondent has discussed the issue.

The direct dissemination of information about politics is not the only way a person's range of social contacts can contribute to political learning. Information provided by the mass media is often the coinage of social discussion. A number of authors have suggested, therefore, that the "communicatory utility" (X_{10}) of media information is an important motivating factor in media use.[51] That is, anticipation of social interaction concerning a particular topic creates a need for information about the topic. For such information one often turns to the mass media. The strength of this socially generated need for mass media information has been demonstrated repeatedly.[52] It is hypothesized, therefore, that the greater the number of coorientation partners, the greater will be the communicatory utility (X_{10}) of information about political issues. Such communicatory utility should lead to greater seeking of and receptivity to political information, resulting in higher levels of mass media message discrimination (X_{12}).

$$8: X_{11} \rightarrow X_{12}; X_{11} \rightarrow X_{14}$$

The degree to which a political issue is perceived to be salient to a person's interests should influence the need for, and utility of, information about the issue in mass media and interpersonal channels.[53] Salience information (X_{11}), therefore, should be positively associated with both mass media and interpersonal message discrimination $(X_{12}; X_{14})$.

$$9: X_{12} \rightarrow X_{14}$$

If the agenda-setting function of the mass media means the media influence what people "think about," they should also influence what people talk about. At the aggregate level, issues which receive greater media coverage should more frequently be the topic of political discussion.[54] At the individual level, those who are more heavily exposed to media information about an issue should engage in more conversation about that issue. It is therefore hypothesized that greater mass media message discrimination (X_{12}) will lead to greater interpersonal message discrimination (X_{14}).

The reverse of that causal sequence is also plausible, of course. However, the strength of the agenda-setting function suggests that the media influence the discussion of issues more frequently than

such discussion leads to media information-seeking about an issue, since the evidence is that when coverage of an issue declines the issue also disappears from the interpersonal agenda. Still, the causal direction question remains.

$$10: X_{12} \rightarrow X_{15}; X_{14} \rightarrow X_{15}$$

As discussion below makes clear, mass media message discrimination (X_{12}) is the principal index of media exposure in this study. The hypothesized path between X_{12} and political knowledge (here termed "political information holding" X_{15}) is, therefore, the major theoretical linkage in the model. The path from X_{14} to X_{15} provides us with the opportunity to compare the relative strengths of mass media and interpersonal sources under various conditions.

A Model for Empirical Testing: Model II

According to Model I, then, the traditional correlations observed between political information holding and such predictors as education (X_1), interest in politics (X_4), membership in political groups (X_5) and political participation (as indexed by voting—X_6) are in fact the product of indirect influences through such intervening variables as mass media exposure and political discussion. In other words, it is assumed in Model I that once the indirect effects of such background variables are removed, no direct effects will remain. These assumptions were tested here by estimating a standardized partial regression coefficient for the direct relationship between each background or control variable and political information holding. The partial regression coefficients thus derived express the direct effects of these variables upon political information holding after all hypothesized indirect effects have been removed.

Another reason, of course, for considering the possible direct effects of certain background variables is to ensure that proper controls are introduced in testing other hypothesized relationships. For example, education (X_1) in Model I is hypothesized to have a direct effect on media message discrimination (X_{12}). If education also has a direct effect upon political information holding (X_{15}), then any observed relationship between media message discrimination and political information holding may be partly or wholly spurious. We must, therefore, control for education in testing for the "true" effect of media message discrimination on information holding.

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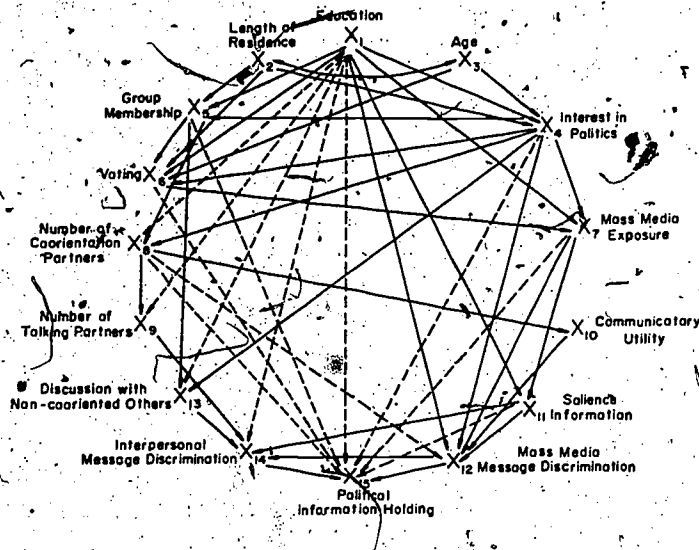
Figure 2
Model II: Model I plus
Control Paths*

*Control paths depicted by dashed lines.

The introduction of a number of possible direct relationships for purposes of statistical control is depicted by dashed lines in Model II (see Figure 2). In addition to those direct relationships already mentioned involving "background" variables and information holding, a number of direct paths were included between education and certain other variables to control for the possible spurious consequences of recall ability. Cannell and Henson argue that if the measurement procedures for any two variables depend in some way on the respondent's ability to recall, then the observed relationship between these two variables will be partly spurious.[35] This criticism may apply to a number of relationships in Model I—for example, that between media message discrimination and political information holding. Fortunately, it has been found that recall in the interview situation is strongly associated with level of education.[36] Thus, control paths leading from education to all variables which tax the ability of the respondent to recall (X_5, X_6, X_8, X_9, X_{11}, X_{12}, X_{13}, X_{14},

X_{15}) were introduced to minimize this source of spuriousness. A direct path was also introduced from the conventional measure of mass media exposure (X_7) to political information holding (X_{15}) so that the former's predictive ability could be compared with that of the more topic-specific measure of such exposure furnished by mass media message discrimination (X_{12}). Finally, certain other paths were introduced to aid in controlling the possible effects of interpretation error.[37] Model II, then, is the model which was actually subjected to empirical test.

Methodology

Personal interviews were obtained from a sample of 373 voting-age residents of Toledo, Ohio, in November, 1973. Every other household within randomly selected block clusters was alternately assigned either the local or national version of the questionnaire. This resulted in local (n = 189) and national (n = 184) issue-focus samples which were closely matched on a range of demographic and communication variables such as age, sex, race, length of residence, voter registration and newspaper and television use. In addition, the demographic characteristics of both samples conformed closely to 1970 U.S. Census figures.[38]

Nomination of Political Problems. Respondents were asked to name "any problems facing people in this country (or 'in Toledo, Ohio,' depending upon whether the respondent was assigned to the national or local condition) which you think the government in Washington (Toledo city government) should work to help solve." The respondent was then asked to choose that problem which he considered to be "most important." The interview then focused on that problem.[39]

Political Knowledge. Political knowledge was seen as a reflection of the respondent's store of information concerning the political problem nominated (NP). Although such problems involve many facets, the essential elements of any political problem must include: 1) individuals or groups involved with the problem (political "actors") and 2) those solutions to the problem (or desired political "outputs") proposed by various actors. Knowledge of these elements is essential to the formation of informed judgments concerning which solutions to the problem to favor, and the translation of such preferences into any effective form of political action.

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Political knowledge thus was defined as the total number of actors and proposed solutions connected with the nominated problem of which the respondent was aware.[40] In the model this variable is termed "political information holding" (variable X_{15}). It is recognized that this measure represents a significant departure from traditional "objective" measures of political knowledge. It is based on the assumption that what people think they know about political affairs is more likely to influence their political behavior than what they "ought to know" as determined by external observers. Of course it is not possible within the multi-problem approach adopted here to verify unequivocally the accuracy of such perceptions. Validity, therefore, is more of a problem than it is with methodologies that offer more structured choices. However, for the purposes of this study, the strengths of a multi-issue, open-ended methodology seemed to outweigh its weaknesses. Allowing the respondent to nominate his own political problem tends to minimize differences in personal salience of problems and thus avoids discriminating against individuals of lower socio-economic status. More importantly, conceptualizing "actors" and "proposals" as fundamental elements of political knowledge allows us to make direct comparisons between the local and national political spheres, since we are dealing with the same knowledge units at each level. Still, we must recognize the fundamental difference between the open-ended measure of knowledge employed here and more objectively validated conceptualizations. Hereafter, we shall refer to the more subjective conceptualization as *information holding*, as opposed to "knowledge."[41]

Media Exposure. Most indices of mass media use have consisted of estimates of time spent with various media, frequency of viewing, reading or listening, or sheer number of media attended to. Unfortunately, such measures indicate only gross levels of exposure to a variety of information. It is assumed that people exercise considerable information selectivity, so the low correlations usually observed between such measures and indicators of knowledge of a specific topic are not surprising. We would prefer, therefore, to have measures of exposure related specifically to the topic of interest. One such measure may be obtained by asking respondents to recall any messages concerning the topic of interest which they have recently encountered in any mass medium. The total number of mes-

sages thus recalled furnishes a measure of "message discrimination" concerning that topic. In the present study, message discrimination (X_{12}) regarding each respondent's nominated problem was elicited by asking him or her to describe "each thing you've read, seen or heard in the past two weeks" concerning that problem. The index consists of the total number of messages discriminated from newspaper and television sources.

For comparison purposes, a more conventional index of mass media exposure was also included in the model (variable X_7). It is a composite index of gross newspaper exposure (number of daily newspapers read on an average weekday) and exposure to local and national television news programs.

It may be argued that any prediction of a positive association between message discrimination and information holding is tautological because both are knowledge measures and thus should correlate. However, from an information processing point of view, they are independent. The reasoning is that message discrimination involves an initial stage in the processing of communication stimuli that is closely constrained by already available information, whereas information holding represents at least a second stage far removed from the original stimulus.

At the first stage, persons exposed to mass media content make a series of discriminations among available content units. In recalling these units, they are attempting to reproduce as accurately as possible what has been attended to. Thus message discrimination measures are based directly on content, and as such are indicators of exposure.

Although the accuracy of message discrimination measures is undoubtedly influenced by selective perception and selective retention, it is their ultimate grounding in actual content that is important here. Evidence of this is provided in the present study. At the national political level, a Pearsonian correlation of .44 ($p < .01$) was observed between the number of messages discriminated and mass media coverage of that person's nominated problems in the two weeks prior to interviewing. At the local level the correlation was .25 ($p < .01$). Mass media coverage was the strongest predictor of message discrimination at both political levels. (Other predictors were education, interest in politics, level of mass media exposure

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and salience information). On the other hand, media coverage was unrelated to information holding.

In a more stringent test, the total number of messages discriminated by each respondent was crosstabulated with the level of mass media coverage of each respondent's nominated problem. This crosstabulation revealed that at the national level only one respondent (of 184) reported discriminating a greater number of messages concerning his nominated problem than there were stories about that problem in the Toledo media in the previous two weeks. At the local level, only five respondents indulged in such "over-reporting." In other words, when little or no recent media coverage of a particular topic existed, few respondents reported discriminating any mass mediated messages about these topics. Thus, message discrimination measures do appear to be based on media coverage levels.

Information "held" or stored, on the other hand, is part of a larger cognitive framework constructed through the assimilation of various informational inputs. While these inputs may include content units discriminated in mass media channels, there is no necessary connection. Units of stored or "held" information are not necessarily (and often will not be) based on actual media content. Information holding measures are not "exposure" measures; unlike message discrimination measures, they do not ask respondents to report recent media behavior, but instead ask them to reproduce current cognitions.[42]

Other Variables

The remaining variables in the model were measured in the following manner:

Demographic Variables

X_1—Education— Number of years of formal education.

X_2—Length of Residence— Number of years of residence in Toledo.

X_3—Age— Eleven ordinally ranked age categories.

Political Variables

X_4—Interest in Politics— 7-point Likert-type scale referring to interest in "the government in Washington, and what it does," (national), or "the Toledo city government, and what it does" (local).

X_5—*Group Membership*—At the national level, respondents were asked to name groups to which they belonged which were perceived to be concerned with national politics. At the local level, the focus was on groups concerned with problems in Toledo. The measure used is the total number of groups.

X_6—*Voting*—An indicator of political participation derived from self-report measures scored as 1) not registered to vote in Toledo at the time of the study; 2) registered but did not vote in the last major election (presidential at the national level, mayoral at the local); 3) registered and also voted.

Social Context Variables

X_8—*Number of Coorientation Partners*—R's coorientation "sphere" is indexed by the total number of persons perceived as agreeing or disagreeing with R's "ideas about" the nominated problem.

X_9—*Number of Talking Partners*—Number of coorientation partners with whom R reported discussing the problem in the two weeks prior to the interview.

X_{13}—*Discussion with Non-Cooriented Others*—R was asked to describe the relationship to self (spouse, child, co-worker, etc.) of individuals with whom the problem had been discussed but whose orientation is unknown. The number of persons in each role was not obtained, so the measure used is the total number of role-relationships mentioned.

X_{14}—*Interpersonal Message Discrimination*—R's level of exposure to information regarding the nominated problem through interpersonal sources. The indicator is provided by the total number of topics discussed (regarding the problem) with either cooriented or non-cooriented others.

Information Utility Variables

X_{10}—*Communicatory Utility*—The total number of "social utility" reasons mentioned by R for following political issues (e.g., "to show friends or people at work that I am interested in the problem").

X_{11}—*Salience Information*—The number of ways R said the nominated problem affected self or family's personal health or well-being, property, finances, spare time, etc.

Mass Media Coverage

To determine the level of mass media coverage of nominated

problems, a content analysis of Toledo newspaper and television coverage was carried out for the two weeks immediately prior to interviewing. The coverage level for each problem was determined by summing the total number of stories related to that problem appearing in the Toledo *Blade* (the major local paper), the evening news programs of the three major television networks, and local television evening news programs.[43] This was then employed to split both the local and national issue-focus samples into high and low media coverage groups (i.e., individuals whose nominated problems had received relatively high levels of coverage as against those whose problems had received lesser coverage).[44]

Comparing Local and National Spheres

Meaningful comparison between local and national political levels demands that the same theoretical relationships be tested at both levels. This study tests the same theoretical model at both political levels, for both high and low mass media coverage groups.

Comparison also demands that the operational definitions be at least roughly equivalent at both levels. The present study has attempted to employ equivalent operational procedures at the local and national levels with regard to each variable. For example, political knowledge has been conceptualized as information holding about actors and proposals associated with a respondent-nominated political problem. Thus local and national information holding have been defined in the same conceptual and operational units. Similarly, conceptualizing mass media exposure in message discrimination terms means that we are dealing with identical exposure units (i.e., the number of messages discriminated) at each level. Indeed, with the exception of voting (X_6), all variables in Model I are measured in terms of the same units at each level. The local and national questionnaires were, in fact, identical in wording except for the insertion of either local or national references at appropriate junctures.

The same is true of the kinds of analytical procedures employed. The present study employs identical regression techniques with both the local and national data, and with both high and low media coverage groups.

Finally, adequate comparison requires that the respondents in the groups compared be as similar as possible. In this study we have

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randomly assigned respondents to the local or national condition, the best method of controlling for individual differences.

Results

Problem Agendas and Mass Media Coverage Levels. As Tables 1 and 2 reveal, there are rather striking differences in the number and kinds of problems which people singled out for attention at the local and national levels of government. At the national level, only 33 problems were mentioned, with the energy crisis and corruption in government dominating the agenda. At the local level 55 different problems were nominated, headed by crime. Local aspects of the energy crisis also received some attention. Although several other problems received such dual mention, (e.g., crime, unemployment, drugs), the agendas on the whole are very dissimilar, reflecting, it would appear, a public awareness of the differing scope and functions of local and national government.

Table 1
Frequency of Mention and Mass Media
Coverage of National Problems

Problem	Frequency of Mention	Mass Media Coverage[a]	Problem	Frequency of Mention	Mass Media Coverage[a]
Energy Crisis	62	273	Fiscal Responsibility (national)	1	3
Corruption in government	45	190	Foreign aid	1	9
Inflation	18	39	Housing	1	13
Welfare-poverty	13	31	Financial problems:		
Unemployment	7	29	blue collar	1	13
Aid for the			Black-white		
elderly	5	14	relations	1	4
Drugs	3	16	Mass transit	1	8
Crime	3	187	Foreign trade	1	7
Mid-East crisis	2	78	Consumer rights	1	9
Education (Toledo,			Railroads	1	9
non-Toledo)	2	99	Overpopulation	1	1
Taxes (in general)	2	18	Underfed children		
Product shortages	1	9	overseas	1	2
Crime-drugs (rela-			Intragovernmental		
tion between)	1	8	cooperation	1	1
Court reform	1	1	Abortion	1	1
Health care	1	8	Pollution (general)	1	18
Indian problems	1	0	Water pollution	1	4
Minority group			Recession	1	7
problems	1	36			

[a]Mass media coverage measured by total number of stories related to each problem.

Table 2
Frequency of Mention and Mass Media
Coverage of Local Problems

Problem	Frequency of Mention	Mass Media Coverage[a]	Problem	Frequency of Mention	Mass Media Coverage
Crime	39	187	Alleys (repair)	1	0
Housing	16	13	Rent levels	1	0
Welfare-poverty	12	31	Payroll tax	1	1
Education (Toledo)	10	40	Police brutality	1	1
Urban renewal	9	7	Recycling	1	1
Energy crisis	9	273	City garbage track		
Unemployment	7	29	knocked down fence	1	0
Drugs	6	16	Abortion	1	1
Storm sewers	5	1	Black-white relations	1	4
Inflation	4	39	New jail	1	2
Fiscal responsi-			Taxes (local)	1	3
bility (local)	4	2	Air pollution	1	14
Flooding in Toledo	4	5	Flooding in Raceway		
Street repair	4	1	Park	1	1
Crime-drugs (re-			Leaf Collection	1	2
lation between)	3	8	Sewer rates	1	2
Flooding in Point			Telephone service	1	0
Place	3	1	Overpopulation	1	1
Convention Hall	3	1	Financial credit for		
Traffic conges-			women	1	0
tion	2	3	Lack of entertainment		
Solid waste dis-			in Toledo	1	0
posal	2	1	Garbage cans (failure		
Parks	2	10	to keep lids on)	1	0
Council represen-			Children on streets		
tational system	2	0	at night	1	0
Property tax	2	0	Recession	1	7
Water rates	2	0	Teenage problems	1	2
Housing integra-			Garbage collection	1	1
tion	2	0	Mass transit	1	8
Sanitary sewers	2	2	Court reform	1	1
Aid for the eld-			Commercial fishing	1	7
erly	2	14	Corruption in govern-		
City growth	2	7	ment (general)	1	190
Street cleaning	2	0			
Littering	2	1			

[a]Mass media coverage measured by total number of stories related to each problem.

The greater number and variety of local problems nominated would seem to reflect a stronger agenda-setting influence at the national level and the greater personal salience of the local issues. On the whole, problems most frequently nominated by national respondents received much heavier mass media coverage than did local problems, as a comparison of Tables 1 and 2 shows. Only local crime commanded coverage and nomination levels approaching those of the dominant national problems. The relative lack of media guidance at the local level is illustrated by examining the correlation between total media coverage levels for each problem and the proportion of respondents at each political level who nominated each problem as "most important." The correlation (Pearson

r) at the local level is a modest .53 ($p < .01$), while at the national level it is a relatively strong .82 ($p < .01$).

Testing the Model

Path coefficients for the relationships in Model II were estimated separately for each of the four media coverage/system level conditions.[45] The results of these tests are shown in Figures 3 through 6.[46] In these figures, only relationships with path coefficients of or beyond .16 are shown.[47]

National-High Coverage Condition. In the national political level-high mass media coverage condition (Figure 3), mass media message discrimination emerges as the strongest predictor of political information holding ($P = .27$), followed by education ($P = .23$), and salience information ($P = .19$). Together the three predictors account for 35% of the variance in information holding ($R = .59$). This is a substantial portion of the explainable vari-
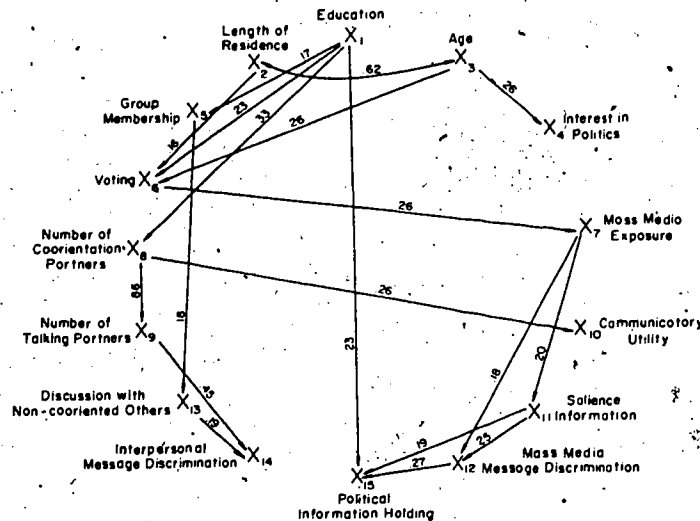

Figure 3
Path Coefficients: National
Political Level—High Mass Media
Coverage Condition (n = 107)

ance, since inclusion of the remaining seven predictors of informa-
tion holding (see Figure 2) increases R^2 to only 41% ($R = .64$).

While the significant effect of media message discrimination on
information holding was expected, the substantial direct contribu-
tion of education was not. The magnitude of education's effect may
indicate that despite the large number of variables in the model
which intervene between education and information holding, we
have neglected certain other important intervening forces which
would aid in interpreting the relationship. It is more likely, how-
ever, that education is performing here in its role as a transitua-
tional indicator of a generalized orientation toward political ob-
jects—i.e., as an indicator of being "plugged in" to the political
information network. More highly educated individuals with great-
er interest in politics would be more likely to be exposed to informa-
tion about certain issues when it was available in media channels in
the past, even though these issues may not be on the current media
agenda. Although the effect of media message discrimination (de-
pendant, as it is, on recent levels of mass media coverage) probably
represents recent learning about political problems, education also
serves as an indicator of past learning about these problems.

This rationale also helps account for the greater-than-expected
effect of salience information. It appears from Figure 3 that ex-
posure to the mass media did indeed contribute to increased per-
ception of causal linkages between the nominated problem and
various personal concerns ($P = .20$), and that these perceptions
generated a need for and awareness of problem-related information
in the mass media ($P = ..25$ for the path from X_{11} to X_{12}). However,
a substantial direct effect of salience information on political infor-
mation holding remains, indicating that salience information ac-
quired in the past (or at least prior to the two-week period which
preceded interviewing) may also function as a generalized, tran-
situational indicator of need for information about the problem.

Somewhat unexpectedly, interpersonal discussion about the
nominated problem (X_{14}) did not have a noticeable impact on levels
of information holding ($P = .07$), in spite of the fact that respon-
dents in this condition engaged in relatively frequent discussion of
their problems (mean number of talking partners = 2.31 compared
to $\bar{X} = 1.19$ in the national-low coverage condition) and discrimi-
nated relatively greater numbers of messages through such interper-

sonal channels (mean number of discriminated messages $=$ 1.30 compared to $\bar{x}$ = .77 in the low-coverage condition). One explana-tion is that such discussion may not have been primarily concerned with proposed solutions to the energy crisis or the problem of politi-cal corruption (the two problems named by respondents in this con-dition—see footnote 44), nor with actors advocating such solutions to these problems. This explanation would seem particularly appro-priate with reference to Watergate. It is likely that much discussion . of this issue centered around personalities involved in political wrongdoing. Discussion of Watergate probably involved more political "gossip" than substantive discussion of the ways and means of avoiding future Watergates. Individuals probably had to turn to the mass media for the latter, an inference supported by the positive impact of mass media message discrimination on actor-proposal information holding.

The overall pattern, therefore, presented by Figure 3 is that of a causal flow originating with various generalized indicators of politi-cal interest (education, age, length of residence, voting), channeled through the focal point of mass media exposure, and continuing on to political information holding through media message discrim-ination and salience information. Only education among the vari-ous "background" variables in the model retains a significant asso-ciation with information holding once the appropriate intervening variables have been controlled.

National Low-Coverage Condition. Turning to the national level-low mass media coverage condition (Figure 4), we immediate-ly see that the pattern established with high-coverage problems does not carry over to issues receiving less generous media treatment. Here education emerges overwhelmingly as the major predictor of information holding (P = .51). Only one other variable, the num-ber of coorientation partners, displays any impact (P = .19). Together, these variables account for 29% of the variance in infor-mation holding (R = .53). Adding the remainder of the predictor variables to the regression equation contributes little to these figures (R = .57, variance explained = 32%).

It appears, therefore, that under conditions where little mass media information concerning certain political topics is flowing through a political system, indicators of recent exposure to such information display relatively little variation and thus little power
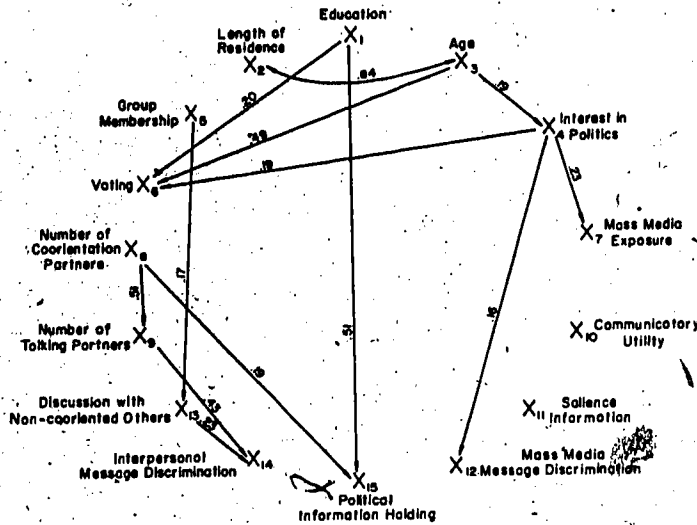
Figure 4
Path Coefficients: National
Political Level—Low Mass Media
Coverage Condition (n = 77)

to explain variation in information holding.[48] The information "held" by individuals probably tends to be relatively "old" information, and is best explained by measures of generalized political interest which transcend recent low levels of media coverage, but which are sensitive to past periods of greater information availability. Education, as we have noted, is one such indicator. One's coorientation sphere, while anchored more specifically to the problem nominated, is also a relatively stable indicator in that it is not as dependent on recent media coverage as are message discrimination measures.

It is somewhat surprising, however, that the other indicators of generalized interest (e.g., interest in politics, mass media exposure) do not show evidence of direct effects on information holding. This opening of indirect paths from education to information holding would, of course, have siphoned away a portion of the "direct" impact of education. The failure of these variables to predict information holding is, however, consistent with the pattern found in the national-high-coverage group.

Local-High Coverage Condition. Interpersonal discussion (as in-dicated by interpersonal message discrimination) emerges as the primary source of information holding about local affairs (P = .49) in the local level/high mass media coverage condition (Figure 5). Salience information (P = .29), membership in politi-cal groups (P = .23) and voting (P = .23), also are significantly associated with information holding. Message discrimination in the mass media surprisingly shows a negative direct relationship (P = -.20). Together, these variables account for 37% of the vari-ance in information holding (R = .61). Adding the remaining pre-dictors to the equation explains only an additional 1% of the vari-ance (R = .62).

There are a number of interesting relationships in Figure 5. For example, although mass media message discrimination displays a negative *direct* impact on information holding, it has a positive *in-direct* effect, through its positive relationship with interpersonal message discrimination (P = .31), which in turn is positively re-
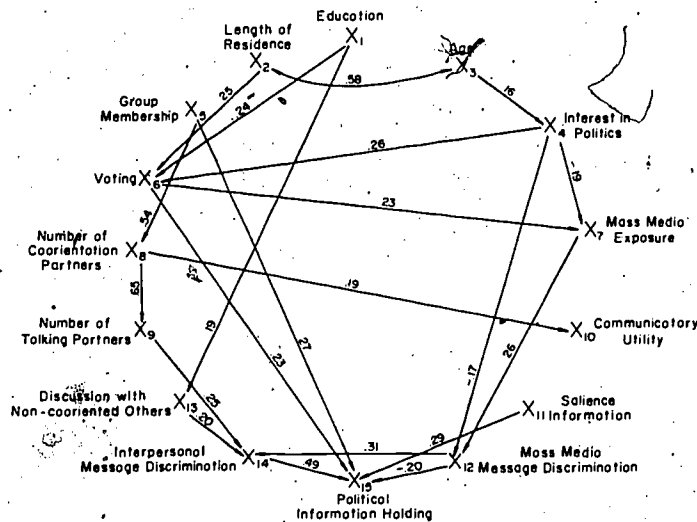

Figure 5
Path Coefficients: Local Political
Level—High Mass Media Coverage
Condition (n = 82)

lated to information holding ($P = .49$). Exposure to problem-related information in the media appears to have an agenda-setting effect in stimulating interpersonal discussion about the topic. Such discussion, in turn, results in considerable learning about local political problems.

However, the low mean level of interpersonal message discrimination ($X_{15} = .62$, compared to $X_{15} = 1.30$ in the *national*-high coverage condition) indicates that relatively few individuals were exposed to problem-related information through interpersonal channels. This is corroborated by the relatively lower mean number of talking partners ($X_9 = 1.11$) in this condition as compared to the national-high coverage condition ($X_9 = 2.31$). Who, then, makes up this subgroup of individuals in this condition who engage in political discussion and, moreover, learn from this discussion? Further examination of Figure 5 suggests an answer. It appears that much interpersonal message discrimination has its roots in membership in political groups (X_5). A strong indirect path from group membership to interpersonal message discrimination leads through X_8 (number of coorientation partners) and X_9 (number of talking partners). At the beginning of this chain, membership in politically oriented groups contributes strongly to one's sphere of coorientation partners ($P = .54$). Membership in political groups provides an individual with an easily accessible pool of like-minded individuals with whom to discuss political topics. It follows that many fellow group members should become cooriented across such topics. To complete the chain, one's sphere of coorientation partners is an important source of talking partners ($P = .65$). The number of talking partners, in turn, is moderately associated with interpersonal message discrimination ($P = .25$). The importance of group membership is underscored by the moderate direct relationship between group membership and information holding ($P = .27$). The results of this study, therefore, strongly confirm the central role of group membership in local politics observed in other studies.[49]

The *direct* impact of group membership on information holding, however, once again would seem to be the result of a transituational effect on problem-relevant information acquired in the more distant past (but still retained). This impact is over and above the effect of membership on more recent learning transmitted through

interpersonal discussion. Further evidence of the transituational effect of more stable background variables is the direct link between voting behavior (X_6) and information holding $(P = .23)$. The relationship between salience information and information holding $(P = .29)$ can also be interpreted in this manner.

At the local level, therefore, relatively high media coverage of political problems would seem to stimulate greater media message discrimination $(X_{12} = .93$ messages as compared to $X_{12}^- = .55$ in the local-low coverage condition). This exposure in turn stimulates discussion. These interpersonal channels evidently contain information concerning groups and individuals involved with political problems and proposed solutions, as indicated by the strong relationship between interpersonal message discrimination and political information holding.

The control over interpersonal message discrimination exercised by group membership also would seem to imply, however, that the political learning which takes place through interpersonal channels is monopolized by a relatively small elite. At both the local and national levels only a small percentage of respondents defined themselves as belonging to at least one politically oriented group (13.2% at the local level, 14.9% at the national). This elite has access at the local level to stores of information about political problems denied to non-members. Members of local political groups generally have strong interpersonal connections with local officials and frequently are themselves members of the community power structure. It is readily apparent how information about local problems, proposed solutions and the actors involved might be channeled directly by interpersonal means into a local group or organization.

A question which still remains, however, is why there is no evidence of a positive direct media effect on learning, especially under high media coverage conditions. It is true that the high coverage problems at the national level received nearly twice the coverage of their local counterparts in the two weeks prior to interviewing. Still, substantial amounts of media time and space were devoted to the problems classified as local-high coverage, and thus some learning about actors and proposed solutions might be expected. Perhaps a clue to the problem is provided by examining the nature and distribution of the problems nominated by respondents in this group. Nearly half the respondents (39 of 82) selected crime as their

major problem of concern. Except for the energy crisis (which re-
ceived only 9 nominations), crime received much stronger news play
than did the other problems. Most crime coverage, however, in-
volves simply reporting events and activities. Relatively few stories
are concerned with proposed solutions to crime or with groups, per-
sons, or organizations who propose such solutions. Thus we would
expect little learning in the nature of actor-proposed solutions to
result from this seemingly heavy crime coverage. Such learning
might well take place through discussions with members of local
neighborhood organizations or other community groups concerned
with lowering the crime rate in Toledo. With regard to the remain-
ing local-high coverage problems, coverage levels associated with
these issues are "high" relative only to the coverage levels accorded
those problems classified under the local-*low* coverage heading, and
are not high in any absolute sense. It is therefore not surprising that
relatively little mass media learning about such problems should oc-
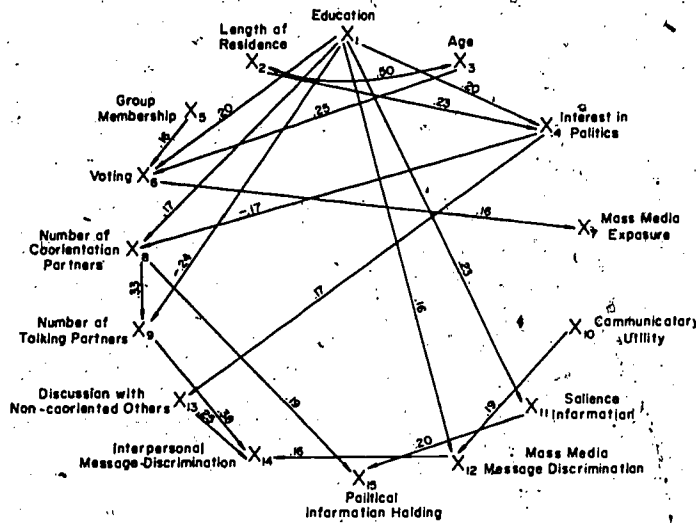cur.

Figure 6
Path Coefficients: Local Political
Level—Low Mass Media Coverage
Condition (n = 107)

Local-Low Coverage Condition. The local-low mass media coverage condition, like the national-low coverage group, is characterized by the notable absence of any effects of either mass media or interpersonal message discrimination upon information holding (Figure 6). As expected, it is the effects of certain more stable tran-situational variables which predominate. This includes both salience information $(P = .20)$ and number of coorientation partners $(P = .19)$, which, while tied specifically to the nominated problem, are still relatively stable when compared to more coverage-sensitive variables such as message discrimination. Still, it is somewhat surprising that even more stable "background" variables such as education, mass media exposure and voting did not exhibit the strongest relationships with information holding. This group of variables is only marginally represented by education $(P = .13)$, and membership in political groups $(P = .13)$ (paths not shown). Together, the two "major" predictors of political information holding account for only 15% of the total variance $(R = .38)$. Including the remaining predictors in the equation increases R^2 to only 22% $(R = .45)$. The model, therefore, is not as successful in explaining variation in information holding as it was in the other three conditions. Apparently other factors are at work here which are not included in the model. One such factor probably is the previously mentioned "immediacy" of many problems at the local level. People simply do not need the media to inform them about many of the kinds of problems (e.g., "street repair") named by respondents in this condition.

The failure of group membership to retain the impact it displayed with high-coverage local problems appears explainable in terms of agenda setting. High coverage problems apparently represent those which are important to the community at a given time. We would expect, therefore, that local groups would generally be more concerned with these immediately salient problems than with those which have, for the time being, been relegated to the back burner. Group concern for the former type of problem is indicated by the strong effect of group membership upon the coorientation sphere observed in the local-high coverage condition. Also, to the extent that many of the low coverage problems are *traditionally* of little popular interest (and this seems to be the case) we would expect few groups to concern themselves with these problems. This

would account for the decrease observed in the transituational (direct) impact of group membership on information holding.

Some Further Implications

It is apparent from the data that the processes which govern political learning differ greatly according to both the political system level involved and the level of mass media coverage accorded the issues in question. Although we have already devoted attention to many of these differences, certain aspects deserve further emphasis. In particular, the role played by the mass media in the political learning process evidently depends upon the levels of coverage which media "gatekeepers" decide to bestow upon certain political problems. Political level, however, also has important ramifications outside the media's ability to control. Together, the coverage and political level dimensions interact to produce unique perspectives on the media's role depending upon the particular coverage-system level under consideration.

The findings of this study suggest that the media may have an important direct effect on political information holding only when national issues are heavily covered. The massive infusion of media information into the political system concerning issues of high national importance would seem to create conditions where effective direct learning from the media is not only possible, but predominates. Especially significant is the fact that mass media exposure (as indicated by media message discrimination) emerged as the strongest predictor of information holding for well covered national problems despite the introduction of numerous controls for demographic, political, social and interpersonal discussion variables. People can and do learn about important national political problems through the mass media. Moreover, they learn about elements of these problems (i.e., actors and proposed solutions) which should be highly relevant to effective political participation.

While a comparable direct effect of the mass media on political information holding is not observable at the local level, a significant indirect effect is apparent under conditions of high media coverage. Here, attention to the media does not result in the direct acquisition of significant amounts of information, but does stimulate discussion. It is this discussion, particularly discussion with fel-

low members of local political groups, which contributes strongly to
levels of information holding. It is important to note, however, that
once again the relatively heavy infusion of information into the
political system by way of the mass media does appear to result in
substantial media impact on political learning, even if this effect is
only indirect. The mass media would seem to have the power at
both the national and local levels to activate important political
learning processes through their ability to regulate to a large extent
the amount of information about political problems flowing
through communication channels. Although longitudinal studies
are needed for confirmation, the findings here suggest that learning
regarding a particular issue ebbs and flows with the tide of informa-
tion flowing through media channels. This inference is based on the
assumption that recent *learning* about a particular topic should be
related in some fashion to measures of recent *exposure* to topic-re-
lated information, either through mass media or interpersonal
channels. Evidence of such a relationship appears only under condi-
tions of high mass media coverage of either national or local politi-
cal problems.

   Since the mass media agenda displays a constant turnover of is-
sues, this means that learning about most topics will be intermit-
tent. In general, people tend to seek information about, talk about,
and thus learn about, only those issues which happen to be in the
media spotlight at a given time. Since this spotlight is constantly
shifting, learning about a particular issue is often truncated before
in-depth understanding of the important political elements of an is-
sue has been achieved. If we liken the political learning situation to
a university in which the course offerings are constantly and arbi-
trarily varied at unpredictable intervals, it is little wonder that the
"students" might manifest certain learning deficiencies. The
media, particularly at the national level, appear to exercise just this
sort of arbitrary control over the "course content" of political af-
fairs.

   Not all political topics, of course, are limited to brief tenures of
media favor. Certain topics, such as wars and economic recessions,
receive sustained high-level coverage over considerable periods. Re-
cently the Watergate affair and the energy crisis have been the focus
of such relatively unflagging media attention. Such issues receive
not only heavy media coverage, but also interpretative reporting

which explores the more abstract and technical aspects of the issues.
We would therefore, expect members of the public to display rela-
tively more extensive and deeper understanding of such issues. This
hypothesis is supported by the finding in this study that the energy
crisis and Watergate, the two most heavily covered issues at either
system level, also showed the highest mean levels of both media
message discrimination and political information holding.

Such issues are atypical, however. Most issues, particularly those
at the local level, are subjected to media publicity for much shorter
periods. Others, such as welfare and race, emerge and reemerge at
unpredictable intervals. Such variability is bound to have adverse
effects on media-related learning. In many instances, no sooner is a
topic placed on the agenda than it is withdrawn, and people are
asked to turn their attention to new and more pressing develop-
ments. Obviously more sustained coverage is needed if audience
members are to acquire more than superficial knowledge of a given
problem or issue.

Whether the mass media are capable of providing more adequate
and sustained coverage under their present economic and tech-
nological structures is open to question. Given the limited resources
of media time and space, any attempt to provide more in-depth
coverage of issues would be in direct conflict with the surveillance
function of the media whereby the media attempt to keep the au-
dience continually informed of new developments. The constantly
accelerating pace of such developments in modern society exerts
ever increasing demands on the ability of the media even to report,
much less adequately cover, such events.

Notes

1. Studies providing evidence for an association between media exposure and political knowledge include the oft-cited Elmira study reported in Bernard Berelson, Paul Lazarsfeld, and William McPhee, *Voting* (Chicago: University of Chicago Press, 1954); See also Thomas E. Patterson and Robert D. McClure, *The Unseeing Eye: The Myth of Television Power in National Elections* (New York: G. P. Putnam's Sons, 1976); Jeremy Treneman and Denis McQuail, *Television and the Political Image* (London: Methuen, 1961); Jay G. Blumler and Denis McQuail, *Television and Politics* (Chicago: University of Chicago Press, 1969); John P. Robinson, "Mass Communication and Information Diffusion," in F. Gerald Kline and Phillip J. Tichenor (eds.), *Current Perspectives in Mass Communication Research* (Beverly Hills: Sage, 1972); Jack M. McLeod, Ramona R. Rush and Karl H. Friederich, "The Mass Media and Political Information in Quito, Ecauador," *Public Opinion Quarterly*, 32:575-87 (1969-70); Alexis S. Tan, "Mass Media Exposure, Public Affairs Knowledge and Black Militancy," *Journalism Quarterly*, 53:271-79 (1976).

2. These include Steven H. Chaffee, Scott L. Ward, and Leonard P. Tipton, "Mass Communication and Political Socialization," *Journalism Quarterly*, 47:647-59 (1970); Stephen J. Fitzsimmons and Hobart G. Osburn, "The Impact of Social Issues and Public Affairs Television Documentaries," *Public Opinion Quarterly*, 32:379-97 (1968); S. William Alper and Thomas R. Leidy, "The Impact of Information Transmission Through Television," *Public Opinion Quarterly*, 33:556-62 (1969-70). Some evidence for a reciprocal association is provided by Charles K. Atkin, John Galloway and Oguz B. Nayman, "News Media Exposure, Political Knowledge and Campaign Interest," *Journalism Quarterly*, 53:231-37 (1976). Evidence for the null hypothesis includes a classic study which found a media campaign to be largely unsuccessful in raising political knowledge levels. See Shirley Star and Helen M. Hughes, "Report on an Educational Campaign: The Cincinnati Plan for the United Nations," *American Journal of Sociology*, 50:389-400 (1950).

3. Two studies which provide evidence for a positive link between mass media exposure and local political knowledge are James E. Brinton and L. Norman McKown, "Effects of Newspaper Reading on Knowledge and Attitude," *Journalism Quarterly*, 38:187−95 (1961), and Phillip J. Tichenor and Daniel B. Wackman, "Mass Media and Community Public Opinion," *American Behavioral Scientist*, 16:593-606 (1973).

4. For a particularly illuminating study of the way relative salience of local, state and national politics varies across individuals, see M. K. Jennings and H. Ziegler, "The Salience of American State Politics," *American Political Science Review*, 64:523-35 (1970). Their data indicate that such variables as social status, education, urban/rural upbringing and regional socialization tend to shape orientations toward various local, state and national issues.

5. For discussions of agenda-setting see Maxwell E. McCombs and Donald L. Shaw, "The Agenda-Setting Function of Mass Media," *Public Opinion Quarterly*, 36:176-87 (1972); McCombs, "Agenda-Setting Research: A Bibliographic Essay,"

Political Communication Review, 1:1-7 (1976), and Jack M. McLeod, Lee B. Becker and J. E. Byrnes, "Another Look at the Agenda-Setting Function of the Press," *Communication Research*, 1:131-66 (1974).

6. A second argument for coverage-related differences is more methodological than theoretical. Lower levels of mass media coverage of certain issues tend to restrict individual variation in exposure to mass media information about these issues. This reduction in variation tends to reduce the correlation between mass media exposure and issue knowledge.

7. For example, Berelson, Lazarsfeld and McPhee, op. cit., found that the relationship between mass media exposure and political knowledge held "no matter what other variables are controlled" (although the exact control variables are not specified). Patterson and McClure, op. cit., employed separate controls for sex, education, age and income.

8. Herbert Hyman, *Survey Design and Analysis* (Glencoe, Ill.: Free Press, 1969).

9. Hubert M. Blalock Jr., *Causal Inferences in Nonexperimental Research* (New York: W. W. Norton, 1964); H. M. Blalock, *Theory Construction* (Englewood Cliffs, N.J.: Prentice-Hall, 1969); N. K. Namboodiri, Launor F. Carter, and Hubert M. Blalock, *Multivariate Analysis and Experimental Designs* (New York: McGraw-Hill, 1975); Otis Dudley Duncan, "Path Analysis: Sociological Examples," *American Journal of Sociology*, 72:1-16 (1966).

10. Blalock, *Theory Construction*, op. cit., pp. 49-50.

11. Angus Campbell, Philip E. Converse, Warren E. Miller and Donald E. Stokes, *The American Voter* (New York: John Wiley and Sons, 1960).

12. *Theory Construction*, pp. 28-9.

13. Berelson, Lazarsfeld and McPhee, op. cit.; V. O. Key, Jr., *Public Opinion and the American Democracy* (New York: Alfred O. Knopf, 1961); Paul F. Lazarsfeld, Bernard Berelson and Hazel Gaudet, *The People's Choice* (New York): Columbia University Press, 1948).

14. Robert E. Lane, *Political Life* (Glencoe, Ill.: Free Press, 1959); S. Verba and N. H. Nie, *Participation in America: Political Democracy and Social Equality* (New York: Harper and Row, 1972).

15. Angus Campbell, Philip E. Converse, Warren E. Miller and Donald E. Stokes, *The American Voter: An Abridgement* (New York: John Wiley and Sons, 1964); Lane, op. cit.; Daniel Nimmo, and T. D. Ungs, *American Political Patterns: Conflict and Consensus* (Boston: Little, Brown, 1969).

16. Alvin Boskoff, and H. Ziegler, *Voting Patterns in a Local Election* (Philadelphia: J. B. Lippincott, 1964).

17. Key, op. cit.; John P. Robinson, "Toward Defining the Functions of Television," in Eli Rubenstein, George Comstock and John P. Murray (eds.), *Television and Social Behavior*, Vol. 4: *Television in Day-to-Day Life: Patterns of Use* (Washington: Government Printing Office, 1972); Merrill Samuelson, Richard F. Carter and William L. Ruggels, "Education, Available Time and Use of the Mass Media," *Journalism Quarterly*, 40:491-96 (1963); Serena Wade and Wilbur Schramm, "The Mass Media as Sources of Public Affairs, Science and Health Knowledge," *Public Opinion Quarterly*, 33:197-209 (1969).

18. Campbell, Converse, Miller and Stokes, op. cit.; Lane, op. cit.; Nimmo and Ungs, op. cit.

19. Daniel Nimmo and C. McCleskey, "Voter Qualification and Participation in National, State and Municipal Elections: The Case of Houston, Texas," in C. M. Bonjean, T. N. Clark and R. L. Lineberry (eds.), Community Politics: A Behavioral Approach (New York: Free Press, 1971).

20. Berelson, et al., op. cit.; Campbell, et al., op. cit.; Lane, op. cit.; Lazarsfeld, et al., op. cit.

21. Nimmo and Ungs, op. cit.

22. Campbell, et al., op. cit.

23. Lane, op. cit., Garrett J. O'Keefe Jr., and Harold Mendelsohn, "Voter Selectivity, Partisanship and the Challenge of Watergate," Communication Research, 345-67 (1974).

24. Atkin et al., supra, n.2.

25. A study by Jack M. McLeod, Jane D. Brown, Lee B. Becker and Dean A. Ziemke, "Decline and Fall at the White House: A Longitudinal Study of Communication Effects," Communication Research, 4:3-22 (1977), found no net change in political interest over the 1972-74 Watergate period. However, the 1974 measures were taken in October, two months after Richard Nixon's resignation. The resignation, as dramatic evidence that the political system was working, apparently had a positive effect on levels of political trust, as indicated by opinion polls, and probably had a similar positive effect on political interest. The data do not provide information on political interest levels over the crucial 22-month period before the resignation. It was also found that exposure to media coverage of the 1973 Watergate hearings (after controlling for 1972 levels of media exposure) did not correlate with levels of political interest in October, 1974. Again, however, the fact that the interest measure was taken after Nixon's resignation makes this finding difficult to interpret. Interest measures taken shortly after the Ervin hearings might have yielded different results.

26. Lane, op. cit.; Nimmo and Ungs, op. cit.; Verba and Nie, op. cit.

27. Lane, op. cit.

28. Jay G. Blumler and Jack M. McLeod, "Communication and Voter Turnout in Britain," paper presented to the Association for Education in Journalism, Fort Collins, Colorado, August, 1973.

29. Harold D. Lasswell, "The Structure and Function of Communication in Society," in Lyman Bryson (ed.), The Communication of Ideas (New York: Harper and Row, 1948).

30. Theodore M. Newcomb, "An Approach to the Study of Communicative Acts," Psychological Review, 60:393-404 (1953); for more recent refinements of this approach see Steven H. Chaffee and Jack M. McLeod (eds.), "Interpersonal Perception and Communication," special issue of American Behavioral Scientist, 16:463-620 (1973).

31. Charles K. Atkin, "Anticipated Communication and Mass Media Information-Seeking," Public Opinion Quarterly, 36:188-99 (1972); Steven H. Chaffee and Jack M. McLeod, "Communication as Coorientation: Two Studies," paper presented to the Association for Education in Journalism, Boulder, Colorado,

August, 1967; Leonard P. Tipton, "Effects of Writing Tasks on Utility of Information and Order of Seeking," *Journalism Quarterly*, 47:309-17 (1970).

32. Berelson, *et al.*, *op. cit.*; Chaffee and McLeod, *op. cit.* (1967); Chaffee, Ward and Tipton, *op. cit.*; Atkin, *op. cit.*

33. Atkin, *et al.*

34. F. Agnir, "Testing New Approaches to Agenda-Setting: A Replication and Extension," in Maxwell McCombs and Gerald Stone (eds.), *Studies in Agenda-Setting* (Syracuse: Newhouse Communications Research Center, Syracuse University, 1976).

35. Charles F. Cannell and R. Henson, "Incentives, Motives and Response Bias," unpublished manuscript, Survey Research Center, University of Michigan (n.d.).

36. Cannell and Henson, *ibid.*; J. B. Lansing, G. Ginsburg and K. Braaten, *An Investigation of Response Error* (Urbana, Ill.: Bureau of Economic and Business Research, 1961.)

37. Interpretation error involves the failure to specify adequately variables which may intervene between two particular variables. In terms of Model I, it was deemed possible that the hypothesized indirect effects of number of coorientation partners (X_8) and salience information (X_{11}) on political information holding (X_{15}) might not account for the total effects of these variables upon information holding. Direct paths leading from each of these variables to information holding were therefore introduced in Model II. Similarly it was felt that communicatory utility (X_{10}) might not adequately index the total social utility of mass media content which derives from one's sphere of coorientation partners. A direct path from X_8 to X_{12} was thus introduced.

38. For a description of the demographic characteristics of the samples, see Philip Palmgreen, Mass Communication and Political Knowledge: The Effects of Political Level and Mass Media Coverage on Political Learning, unpublished Ph.D. dissertation University of Michigan, 1975.

39. Only five respondents at each political level could name no problem. These respondents were excluded from the study.

40. Actor knowledge was measured by asking: "Are there any groups, persons or organizations that are trying to influence or affect what the government in Washington (or Toledo City government) does about (nominated problem)?" Information about proposed solutions to the problem favored by each respondent was elicited by asking: "Are there any proposals you think are good ideas for how the government in Washington (Toledo City government) should deal with (NP)?" Information was also gathered concerning proposals opposed by respondents and proposals about which they were undecided.

41. For another political information study which employed the information holding concept see Marc Benton, and P. Jean Frazier, "The Agenda Setting Function of the Mass Media at Three Levels of 'Information Holding'," *Communication Research*, 3:261-74 (1976).

42. For further discussion of the message discrimination technique and examples of its use see Peter Clarke and F. Gerald Kline, "Media Reconsidered: Some New Strategies for Communication Research," *Communication Research*,

1:224-40 (1974); F. Gerald Kline, Peter V. Miller and Andrew J. Morrison, "Adolescents and Family Planning Information: An Exploration of Audience Needs and Media Effects," in Jay G. Blumler and Elihu Katz (eds.), *The Uses of Mass Communications: Current Perspectives on Gratifications Research* (Beverly Hills: Sage, 1974).

43. Since the evening news programs of NBC, ABC and CBS were presented in the same time slots, an average coverage index was calculated for the three networks. For the same reason, an average index was also calculated for local television news coverage.

44. Cutting points were chosen to maximize coverage differences while creating subgroups of approximately equal size. At the national level both criteria were reasonably satisfied by placing all those respondents who had selected either the "energy crisis" or "corruption in government" as the major political problem in the national-high coverage group (n = 107). The remaining 77 respondents, who identified 31 political problems, constitute the national-low coverage group. At the local level, those naming crime, welfare-poverty, education, the energy crisis, unemployment, inflation or corruption in government make up the local-high coverage group (n = 82). The remaining 107 respondents, who mentioned 48 problems, were placed in the local-low coverage group.

45. Since certain variables in the model are ordinal in nature the applicability of a parametric procedure such as path analysis may be questioned. We know, however, that most parametric statistics can tolerate appreciable departures from the assumptions of normality, interval scale, linearity and homoscedasticity without significant distortion. Boyle has demonstrated that when three techniques (non-parametric crosstabulation, path analysis with dummy variables, and path analysis with equal intervals assumed) were applied to the same ordinal data base, the results were essentially equivalent, except that the path analytic techniques provided much richer theoretical interpretations. See R. P. Boyle, "Path Analysis and Ordinal Data," in Hubert M. Blalock (ed.), *Causal Models in the Social Sciences* (Chicago: Aldine-Atherton, 1971).

46. One major difficulty with the multi-problem methodology employed here is that variations in empirical relationships caused by different levels of mass media coverage may be partly confounded with differences in respondents' personal characteristics. The danger of spuriousness is diminished, however, by the fact that respondents in the four political system level-media coverage groups differed very little across conditions on such variables as sex, age, education, group membership, interest in politics, mass media exposure and length of residence. For a condition-by-condition listing of the means of the variables in Model I, see Palmgreen, *op. cit.*, p. 99.

47. The magnitudes of the path coefficients required for statistical significance at the .05 level in the four system level/coverage conditions fluctuated between .16 and .20. For lack of an absolute standard, .16 was arbitrarily adopted as the criterion. Since our purpose here is the comparison of *patterns* of relationships across different conditions, employing such a standard appears justified. Also, omitting relationships falling below .16 enhances the visual clarity of Figures 3 through 6.

48. This inference is supported by a comparison of standard deviations. In the

national-high coverage condition, the standard deviation of the media message discrimination variable is 1.58, while in the national-low coverage condition it is .82.

49. See, for example, Robert R. Alford and H. M. Scoble, "Sources of Local Political Involvement," *American Political Science Review*, 62:1192-1206 (1968).

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