What Moves Public Opinion?

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Abstract

Democratic theory concerns not only the effects of public opinion on policy, but also what affects public opinion. In this study the content of television network news, differentiated according to political actors or news _sources_, is used to predict changes in the aggregate distributions of Americans' policy preferences, using 80 two-point time series (each roughly two to six months long) of repeated survey questions. The news variables account for a large portion of opinion change. Different news sources have markedly different effects. The reported statements and actions of popular presidents, for example, appear to have a positive impact on opinion, while those of unpopular presidents do not. Experts (or ostensible experts) affect opinion substantially. Most interest groups do not. News commentators seem quite potent; their statements may reflect broader factors such as bias in news selection and reporting, elite consensus, or perceived national opinion. Important questions remain about the quality of information conveyed and about what determines what is reported.

Public opinion is supposed to be the great engine of democracy. According to "populistic" theories of democracy, at any rate, the preferences of ordinary citizens ought to determine what governments do (Dahl, 1956). Certain empirical theories, most notably those based on economic-style reasoning about electoral competition, predict that (under certain conditions) vote-seeking politicians will respond perfectly to what citizens want, and public opinion will rule (Hotelling, 1929; Downs, 1957; Davis, Hinich and Ordeshook, 1970).

Recent evidence has indicated that public opinion does in fact have substantial effects upon policy making in the United States (Monroe, 1979; Erikson, 1976; Weissberg, 1976; see also Page, 1978). In particular, changes in public opinion are usually followed by congruent changes in policy. This appears to be true of foreign and domestic policies of all sorts, at the federal, state, and local levels, and as carried out by legislatures, executives, and even courts; it is especially likely when opinion changes are large and enduring and the issues are highly salient (Page and Shapiro, 1983; Shapiro, 1982).

There remain some questions about the strength of this relationship and about its causal status. It is difficult to rule out the possibility that part of the relationship between opinion and policy is spurious -- an artifact of third factors that affect both opinion and policy separately; and certainly the relationship is reciprocal, with policy changes sometimes preceding and causing opinion change rather than the reverse. On balance, however, there is reason to believe that citizens' preferences do have a significant proximate effect upon policy making.

The next question, then, is: what moves public opinion? What affects citizens' policy preferences?

The answer makes a great deal of a difference. It would be premature to celebrate the triumph of democracy before knowing how and by whom the public is itself influenced. Does the public react directly to objective events, so that opinion is effectively autonomous? Do experts or enlightened political leaders educate the public with helpful new information? Or do demagogues or self-serving elites manipulate opinion with false or misleading propaganda? Which influences are most important: events, experts, politicians, interest groups? Do the mass media report relevant information accurately or inaccurately?

In this paper we make a start at answering such questions by

investigating the impact upon public opinion of the statements and actions of certain actors as reported in the media.

RATIONAL CITIZENS AND THE MASS MEDIA

We consider citizens' preferences among alternative public policies to be primarily instrumental. That is, policies are judged in terms of the costs and benefits that they are expected to entail for the individual, or for his or her family, friends, and favored groups, or for the nation or world as a whole. There is great uncertainty about the nature of political problems and the effects of policies, so that the expected utility of a particular policy alternative depends critically upon probabilistic beliefs about the state of nature: beliefs about present and future facts and causal relationships (see McCubbins and Page, 1984).

New information, therefore, that modifies relevant beliefs about problems or the effects of alternative policies, can be expected to change a citizen's expected utility for those policies. This should occur if five conditions are met: (1) if the information is actually received; (2) if it is understood; (3) if it is clearly relevant to evaluating policies; (4) if it is substantially discrepant from past beliefs; and (5) if it is credible and is in fact believed.

When these conditions are met for a particular individual, new information should alter the amount of utility expected from different policies. If certain threshholds are crossed, it should alter the individual's preferences and choices among policies. Further, if the conditions are met in the same way for many individuals, there may be a change in collective public opinion. For example, if many citizens' policy preferences depend critically on the same belief (e.g., "We must spend more on national defense because the Russians are overtaking us"), and if highly credible, well publicized new information challenges that belief (U.S. military spending is reported to rise sharply and a C.I.A. study concludes that Soviet spending has changed little since 1976), then enthusiasm for increased military spending may drop.

Politics is not a central part of most people's lives; it would not be rational for them to invest much time or effort to learn the ins and outs of alternative policies (Downs, 1957). Whatever political learning does take place occurs over long periods and results in some firmly held beliefs. For both these reasons we would not expect new information ordinarily to produce

large or quick changes in public opinion, and indeed aggregate public opinion about policy is usually quite stable (Page and Shapiro, 1982).

By the same token, most people must rely heavily upon the cheapest and most accessible political information concerning national and foreign affairs: that provided by newspapers and television and radio, and especially by network TV news.

Information presented on television news generally meets the exposure condition for opinion change. Most American families own television sets, and most tune in to network news broadcasts from time to time. Viewers may wander in and out; they may eat or talk or be distracted by children; but every day millions of Americans catch at least a glimpse of the major stories on TV news. Others see the same stories in newspaper headlines, or get the gist of the news from family and friends. Over a period of weeks and months many bits and pieces of information accumulate.

The conditions of comprehension and relevance, too, are often met. The media work hard to ensure that their audiences can understand. They shorten, sharpen, and simplify stories, and use film with strong visual impact, so that a reasonably alert grade schooler can get the point. Often stories bear directly upon beliefs central to the evaluation of public policy -- concerning the size and significance of budget deficits, for example, or the extent of poverty and unemployment, or the dangers of arms races.

Credibility is a more complicated matter. Rational citizens must sometimes delegate the analysis or evaluation of information to like-minded, trusted agents (Downs, 1957, p.230-234). The media report the policy-relevant statements and actions of a wide variety of actors, from popular presidents and respected commentators and reporters, to discredited politicians or self-serving interest groups. News from different sources is likely to have quite different salience and credibility, and therefore quite different impact, on the public (see Hovland and Weiss, 1951-52). The analysis of effects on opinion should allow for such variation.

Similarly, information may vary greatly in the extent to which it is or is not discrepant with past beliefs. If it closely resembles the information that has been communicated for many months or years, if it simply reinforces prevalent beliefs and opinions, we would not expect it to produce change. If, on the other hand, credible new information calls into question key beliefs and opinions held by many people, we would expect changes

in public opinion. The extent of discrepancy with past news and past opinions should be taken into account.

When all these conditions are met we would expect the public's policy preferences to change. If certain further assumptions are sufficiently satisfied we would expect the changes to show up in verbal responses to survey questions (see McCubbins and Page, 1984).

We are, of course, aware of the curious notion that the contents of the mass media have only "minimal effects" (Klapper, 1960; Chaffee, 1975, Kraus and Davis, 1976; Nimmo, 1978; McGuire, 1969; but cf. Graber, 1984; Noelle-Neumann, 1973, 1980, 1984; Wagner, 1983). This notion seems to have persisted despite findings of "agenda setting" effects upon perceptions of what are important problems (McCombs and Shaw, 1972; Funkhauser, 1973; Shaw and McCombs, 1977; Erbring et al., 1980; Cook et al., 1983; MacKuen, 1981, 1984; Iyengar et al., 1982; Behr and Iyengar, 1985). We believe that the minimal effects idea is not correct with respect to policy preferences. It has probably resulted from a failure to examine collective opinion over substantial periods of time in natural settings, and from failure to distinguish among news sources. One-shot quasi-experimental studies (e.g., of presidential debates) understandably fail to find large, quick effects. Cross-sectional studies seek contrasts between media attenders and "non-attenders" that hardly exist, because nearly everyone is exposed either directly or indirectly to what the media broadcast (see Page, Shapiro, and Dempsey, 1985, p.2-4). A more appropriate research design yields different results.

DATA AND METHODS

Taking advantage of a unique data set in our possession, we have carried out a quasi-experimental study that overcomes several of the limitations of previous research. The design involves collecting data from many pairs of identically repeated policy preference questions that were asked of national survey samples of Americans; coding TV news content from broadcasts aired in between (and just before) each pair of surveys; and predicting or explaining variations in the extent and direction of opinion change by variations in media content.

The design has one of the key advantages of time series analysis, in that temporal sequencing facilitates causal inference. It also has the cross-sectional advantage of permitting comparisons of effects for different types of issues

(e.g., foreign versus domestic) or for different political
periods. The use of natural settings means that all real-world
processes can come into play, including major events and actions,
the interpretation of news by commentators and others, and
dissemination of information through two-step or multiple-step
flows and social networks (cf. Katz and Lazarsfeld, 1955;
Bostian, 1970; J. Robinson, 1976). The examination of reasonably
long time periods (several weeks or months) allows enough time
for these natural processes to work and for us to observe even
slow cumulative opinion changes. In addition, our measurement
scheme permits us to distinguish among different sources of news
and to take account of the extent of news story relevance to
policy questions, the degree of discrepancy between current and
previous media content, and (to some extent) the credibility of
news sources.

    As part of our ongoing research project on public opinion and
democracy, we have assembled a comprehensive collection of survey
data on Americans' policy preferences. It includes the marginal
frequencies of responses to thousands of different policy
questions asked by various survey organizations since 1935.
Among these data we have identified several hundred questions
that were asked two or more times with identical (verbatim)
wordings, by the same survey organization. (For a partial
description, see Page and Shapiro, 1982, 1983a.)

    For the present research we selected 80 pairs of policy
questions from the last fifteen years -- for which TV news data
are readily available -- that were repeated within relatively
                          1
short time intervals. The intervals vary from approximately two
weeks to six months (11 to 190 days, with the exception of seven
cases of 238 to 245 days, which were purposively selected). They
average about three months, short enough so that the labor of
coding media content is manageable and potential influences on
opinion are delimited, but long enough so that influences have
time to operate and cumulate.

    The eighty cases are not, strictly speaking, a sample from the
universe of policy issues or poll questions. With the exception
                                                              2
of seven opinion cases selected for special study, the question
pairs either constituted a random sample of the available
eligible survey questions and time points for a given survey
organization, or were all the available cases from an
                  3
organization.

Our use of a variety of survey organizations helped produce a very diverse set of cases, covering many different kinds of foreign and defense (n=32) and domestic (n=48) policies. (See the list in Appendix A.) The use of complete sets of cases or random samples helped avoid arbitrariness or bias in case selection beyond that introduced by the survey organizations themselves. Pollsters generally have incentives to focus on issues that are of current interest or long-term importance on the political agenda, and no doubt they tend to repeat items on which they expect to find opinion change.

Our cases are distributed over the years 1969 through 1983, but cluster somewhat during the election years 1976 and 1980. In nearly half the cases public opinion changed significantly (p<.05; changes of 6 percentage points or more), and in a little more than half, it did not; nearly the same proportion as in our full data set of several hundred repeated items.

The dependent variable for each case is simply the level of public opinion at the time of the second (T2) survey: the percentage of the survey sample, excluding "don't know" and "no opinion" responses,"[4] that endorsed a particular policy alternative. As we will see, using T2 level of opinion as the dependent variable (and including T1 opinion as a predictor) yields nearly identical estimates of effects as does using a difference score -- the magnitude and direction of opinion change -- as the dependent variable.

In this kind of analysis it is essential to scale (i.e., set the polarity) of the opinion data and media content variables the same way, so that a "positive" media input is coded with the same sign as a "positive" opinion change. Whether or not they actually covary is, of course, left as an empirical question. The choice of polarity is arbitrary; we picked the first-mentioned or most prominent policy alternative given in each survey question as the positive pole, and correspondingly coded media content favorable to that alternative as positive or "pro."[5]

For each of the 80 cases we and our research assistants coded the daily television network news from one randomly selected network each day,[6] using the summaries found in the Television News Index and Abstracts of the Vanderbilt Television News Archive. These summaries, while rather brief and not intended for such purposes, were generally satisfactory in providing the

fairly straightforward information we sought, especially since
they were aggregated over several weeks or months. We used all
news stories that were at least minimally relevant to the wording
of each opinion item, beginning two months before the first (T1)
survey -- in order to allow for lagged effects and for
discrepancies or changes in media content -- and continuing with
every day up to T1 and through to the date of the second (T2)
      7
survey.

   We are interested in the effects of particular actors or
sources -- particular providers of information, or Downsian
"agents" of analysis and evaluation -- as their rhetoric and
actions are reported in the media. Thus we distinguished among
the original sources found in each news story, using ten mutually
exclusive and exhaustive categories: the president; fellow
partisans and members of his administration; members of the
opposing party; interest groups, and individuals not fitting
clearly into any of the other categories; experts; network
commentators or reporters themselves; friendly (or neutral)
foreign nations or individuals; unfriendly foreign states or
individuals; courts and judges; and objective conditions or
events without clearly identifiable human actors (e.g.,
unemployment statistics, natural disasters, unattributed
terrorist acts).

   Our independent variables characterize reported statements or
actions by a specified source. Each such source-story
constitutes a unit of analysis in measuring media content for the
time interval of a particular case. (A source-story can be
thought of as a "message" communicated through a medium at a
given moment; cf. the "infon" described by Fan, 1985a.) This
unit of analysis differs from the more usual unit of a "story,"
which we employed in the analysis of newspapers (see Page and
Shapiro, 1983b, 1984). On television several distinct sources are
often brought together in a single story, even when they can be
expected to have different impacts, and they must be counted
separately.

   For each reported statement or action by a particular source
-- each source-story -- we coded its degree of relevance to the
policy question (indirectly relevant, relevant, or highly
relevant); its salience in the broadcast (part of the first story
or not; how close to the beginning of the broadcast it appeared;
its duration in seconds); the pro-con direction of intended
impact of the reported statement or action, in relation to the
opinion item; the president's popularity (measured by the
standard Gallup question at T1, T2, and if available, at the
middle of the time interval) as an indication of his credibility

as a news source at the time of his statement or action; and some judgments -- not used in this paper -- concerning the quality of the information conveyed, including its logic, factuality, and degree of truth or falsehood.

The most important part of the coding effort concerned the directional thrust of reported statements and actions, in relation to each opinion question. In our earlier work on newspapers we defined directional thrust in terms of the direction of impact that a story would be expected to have upon opinion, given an intelligent, attentive audience with average American beliefs and values (Page and Shapiro, 1983b, 1984). This conceptualization had the advantage of allowing for intelligent, non-mechanical audience reactions to reports of complex events, but it had the corresponding disadvantage of introducing an element of subjectivity into the coding process. Accordingly, in this study we measured directional thrust in terms of the intentions or advocated positions of the speakers or actors themselves, applying judgments of expected effects only to stories about events or objective conditions. This redefinition made coding more objective and easier, and generally yielded the same results.

We took considerable care in training and supervising coders and in checking the reliability of their work. We prepared detailed written instructions and held frequent group discussions of coding rules and the treatment of problematic cases. All pro-con coding decisions, and those on other variables central to our analysis, were validated by a second coder and also by one of
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the present authors who made the final coding decisions. We masked the public opinion data so that coders would not be affected in any way by knowledge of whether or how policy preferences changed; we gave them only the exact wording of each opinion item and the time periods to be examined, not what the responses to the questions were.

As a result of these efforts we are confident that very high quality data were produced. It proved rather easy to code reported statements and actions on a five-point directional scale with categories "clearly pro," "probably pro," "uncertain or neutral," "probably con," and "clearly con," in relation to the
9
main policy alternative outlined in each opinion question.

For each category of news source in each opinion case we summed and averaged all the numerical values of pro-con codes (ranging from +2 to -2, with 0 for neutral), in order to compute

measures of total and average directional thrust of the news.
The sums and averages of directional codes for television news
content prior to T1, and between T1 and T2 -- for all messages
coming from all sources combined, and for messages coming
separately from each distinct source -- constitute our main
                              10
independent variables.   We also calculated similar measures
restricted to source-stories of specified degrees of relevance or
salience.

    Our principal mode of analysis is cross-sectional ordinary
least squares regression analysis, in which we estimate the
impact of each news source (or all sources taken together) along
with opinion levels at T1, upon the level of public opinion at
    11
T2.   We analyzed all cases together, and also each of our two
independently selected subsets of 40 cases, as well as subsets of
cases involving different kinds of issues (e.g., foreign versus
domestic policies), different time periods, and different levels
of source credibility (popular versus unpopular presidents).

    After testing hypotheses and exploring the aggregate data, we
closely examined individual cases of public opinion change,
scrutinizing media-reported statements and actions and the
precise sequence of events. This served two purposes. First, it
helped us with causal inference, shedding light on possibilities
of spuriousness or reciprocal influence. Second, it enabled us
to generate some new hypotheses about effects on opinion by
certain sets of actors not clearly differentiated in our
aggregate data.

    FINDINGS

    We have argued that it is not appropriate to lump all media
content together as if it came from a single source with a single
level of credibility. It will be useful, however, to disregard
our own advice for a moment and consider the effects upon public
opinion of all TV news messages from all sources added together.
In this way we can make clear the form of the relationship, and
especially the roles of pre-T1 news and of opinion at T1 in
affecting the level of opinion at T2.

    As a first step we regressed the level of opinion at T2 (that
is, the percentage of respondents at T2 supporting the most
prominent alternative offered in the survey question) upon (1)
the level of opinion at T1; (2) the total sum of pro-con scores
(from all sources combined in relevant or highly relevant news

stories) in the two months before T1; and (3) the total pro-con
sum in the T1-T2 period¹². The results are displayed in Table 1.

The level of opinion at T1 is a very strong predictor of the
level at T2; in fact by itself it accounts for more than 85
percent of the variance in T2 opinion. That is to say, on the
whole public opinion is quite stable over these periods of up to
a few months. The average magnitude of opinion change is about 5
percent. There is a simple first-order autoregressive structure
in levels of public opinion (b=.95). Thus regressions using the
extent of opinion <u>change</u> rather than the level of T2 opinion as
the dependent variable produce virtually the same coefficients
for all the media content independent variables. Our results
based on the level of opinion can equally well be interpreted as
effects on opinion change.

(TABLE 1 ABOUT HERE)

Of more interest in Table 1 is the substantial negative effect
that pre-T1 news has upon opinion at T2. A net sum of one
"probably pro" story before T1 is associated with a drop of more
than one quarter (.29) of a percentage point in opinion at T2.
This might seem puzzling at first, but it follows directly from
our point that opinion change should depend upon a discrepancy or
change in media content, and from the partly temporary nature of
opinion change.

If, for example, the TV news for several months before T1 were
full of stories favorable toward a particular policy, so that
opinion moved strongly in a "pro" direction (at T1), and if the
media were then utterly silent about the policy between T1 and
T2, as people forgot about or discounted the past news, we would
expect support for the policy to drop off. Thus opinion at T2
would be negatively related to media content before T1. If the
discrepancy process worked in a particularly simple fashion, we
would find identical coefficients of opposite sign on
corresponding pre-T1 and T2 media variables, and we could use¹³
media content change scores to predict opinion change.

But things are not so simple. A part of the effect of media
content is no doubt temporary, but part may last a long time; and
some effects may be lagged or delayed. With our two-point time¹⁴
series we cannot precisely estimate lags or decay rates. The
problem is further complicated by the need to distinguish among

news sources, some of which (e.g., commentaries, reports by experts) may have delayed effects and/or unusually slow decays. And the necessity of using T1-T2 periods of varying lengths, not always corresponding to the two-month pre-T1 period, unavoidably reduces the precision of estimating T1-T2 effects. Our method of entering both pre-T1 and T1-T2 variables separately into regressions is highly general and allows a great deal of
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information to be extracted from the data.

We have elsewhere noted an interesting "falling off" effect that follows from the discrepancy process and the temporary component of opinion change (Page and Shapiro, 1983b; Page, Shapiro, and Dempsey, 1984). It appears that pollsters often decide to ask survey questions about particular policy alternatives (often phrased as the first or "pro" alternative in the question) when those alternatives are lively topics in the media and public discussion. Thus an initial poll at T1 may reveal high public support for a newly publicized policy idea. Then those initial effects fade, and news coverage may tend to become more mixed, with doubts and opposition beginning to be heard. By the time of a second survey at T2, public support tends to drop a bit. We find a small negative opinion change (2.7 percentage points) on the average in our data set.

A peculiar finding in Table 1 is the weak effect of T1-T2 news content. The estimated coefficient is positive but very small,
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and not quite significant at the .05 level. The logic of our analysis would seem to indicate that T1-T2 variables should have effects of opposite sign and roughly the same magnitude as corresponding pre-T1 variables. But we would not take this non-finding very seriously. The effects of pre-T1 and T1-T2 media content variables are both estimated to be very small in Table 1 because of the failure to distinguish among different sources of news. If some sources have negative effects and some have positive effects and some have no effects at all, it is not surprising that a measure combining all of them together has
17
little relation to opinion change.

The importance of distinguishing among sources becomes clearly apparent when we regress opinion at T2 on pre-T1 and T1-T2 news variables from the ten distinct types of sources (the sums of their separate pro-con scores for relevant stories). The results are reported in the first column of Table 2.

Taken as a whole this regression accounts for the great

preponderance (more than 90 percent) of the variance in opinion at T2. Of course much of this is attributable to the effects of opinion at T1, but a comparable analysis with opinion change as the dependent variable still accounts for a very substantial portion of the variance, about half of it (R-squared=.57, adjusted R-squared=.41). This is quite striking given the inevitable presence of sampling error in the original surveys and the imperfect media summaries and coding procedures.

Again pre-T1 news tends to have negative effects, i.e., opposite to those of corresponding T1-T2 variables (see the top half of the first column of Table 2). Most important, however, news from different sources tends to have effects of different magnitudes and sometimes different directions. Source differences are apparent both among the pre-T1 variables and among the more readily interpretable T1-T2 variables, displayed
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in the bottom half of Table 2. We will focus on the latter.

(TABLE 2 ABOUT HERE)

News commentary (from the the anchorman, reporters in the field, or special commentators) between the first (T1) and second (T2) surveys is estimated to have the most dramatic impact. A single "probably pro" commentary is associated with more than four percentage points of opinion change! This is a stunning finding, one that we would hesitate to believe except for the fact that something similar has now appeared in three separate sets of cases we have analyzed. It was true of editorials in our earlier analysis of 56 two-point opinion series using The New York Times as our media source (Page and Shapiro, 1983b); also in the first 40 TV news cases we collected (Page, Shapiro, and Dempsey, 1984), and in the 40 new TV cases which we analyzed separately before doing all 80 cases together.

We are not convinced that commentators' remarks themselves have such great potency. They may serve as indicators of elite or public consensus (cf. Noelle-Neumann, 1972, 1980; Hallin, 1984; McClosky and Zaller, 1984). Or the commentaries may indicate slants or biases in media coverage that are transmitted to citizens in ways that supplement the statements of the commentators. These could include the selection of news sources and quotes, the choice of visual footage, the questions asked in interviews, camera angles, and so forth, if commentaries are in basic agreement with official network sentiment or the attitudes
19
of reporters.

Certain other estimated effects on opinion are probably important even though some do not reach the .05 level of statistical significance according to a two-tailed test.[20] Most notably, a single "probably pro" story about experts or research studies is estimated to produce about three percentage points of opinion change, a very substantial amount. Presidents are estimated to have a more modest impact of about three tenths of a percentage point per "probably pro" story, and stories about opposition party statements and actions may also have a positive effect.

There are indications, on the other hand, that interest groups and the courts may actually have negative effects. That is, when their statements and actions push in one direction (e.g., when a federal court orders school integration through busing) public opinion tends to move in the opposite direction.

Certain kinds of news appear on the average to have no appreciable direct effect at all upon opinion or less impact than might be expected. The president's fellow partisans, when acting independently of the president himself, do not appreciably affect opinion. Events may move public opinion directly but they do not speak strongly for themselves. They presumably have additional effects through the interpretations and reactions of other news sources. The same applies to statements and actions from foreign countries or individuals, whether friends or foes. Americans apparently do not listen to foreigners directly, but through interpretations by U.S. opinion leaders.

The marked distinctions among types of news fits well with our expectation that information from different sources has different degrees of credibility. It is quite plausible, for example, that the public tends to place considerable trust in the positions taken by network commentators and (ostensibly) non-partisan experts. Some other sources may be considered irrelevant. Still others, like certain interest groups and individuals presumably pursuing narrowly selfish aims, may serve as negative reference points.[21] Similarly, the federal courts may have served as negative referents in the 1970s and the early 1980s because of their unpopular actions on such issues as busing and capital punishment. In any case, it is clearly important to distinguish among sources of news.[22]

In the second column of Table 2 we report the results of a modified regression analysis in which we dropped some variables

(party of the presidents, foreign friends and foes) that had a
small and unreliably estimated direct impact in the previous
                  23
regression.   The results are much the same, except that most of
the coefficients are more stable and the effects of interest
groups and opposition party appear statisticaly significant even
by the conservative two-tailed test. News commentary remains the
most powerful single source of opinion change.

     An interesting finding (already hinted at in the first column)
is that while most of the pre-T1 news variables have negative
coefficients -- consistent with the discrepancy or temporary
effect hypothesis -- commentary does not. Commentaries may in
fact have lagged positive effects that take time to operate as
their views (or the consensuses or biases they reflect) diffuse
through the political system. By the same token, part of the
negative effect of interest groups may be a lagged one as well.

     For one news source, namely presidents of the United States,
we are able to explore the credibility issue more directly. We
consider a president's popularity -- that is, the percentage of
Americans that approve his "handling of his job" according to the
Gallup poll -- to be a good indicator of the general level of
trust and confidence in a particular president. When a president
is popular we would expect people to put more faith in what he
says and does, and to be more prone to change their opinions
accordingly. To test this hypothesis we partitioned our data
into two subsets of cases: one in which at the time of the T1
survey, the president had an approval rating of 50 percent or
higher (n=35); and the other in which approval was less than 50
percent (a larger n=45 in the unhappy decade studied). We
performed the analysis of TV news impact separately for each of
these subsets of cases, with the results displayed in Table 3.

     (TABLE 3 ABOUT HERE)

     When presidents are popular, they tend to have a positive
effect on public opinion. Each "probably pro" statement or
action, according to Table 3, produces more than half a
percentage point of opinion change. Part of this is undoubtedly
temporary, and even the long-term part presumably could not be
multiplied indefinitely by talkative presidents, because of
saturation and over-exposure. In any case, presidents have many
things to do -- they cannot hammer ceaselessly at a single issue
in order to mold public opinion. And reporters and editors search
for fresh topics to cover (e.g., Roshco, 1975; Gans, 1980).
Nonetheless, a popular president does indeed stand at a "bully
pulpit," and on an issue of great importance to him he can

reasonably expect to achieve a five or ten percentage point change in public opinion over the course of several months (see Page and Shapiro, 1984).

Unpopular presidents, in contrast, apparently tend to have no appreciable effect on opinion at all. They may try -- as in Macbeth -- to call up spirits from the vasty deep, but none will come. Sometimes they may even have a negative effect.

There are some indications that the effects of other news sources interact with presidential popularity. While the full set of possible first-order interactions is too complicated to model with confidence in a single equation with the number of
24
cases we have,   these separate popular and unpopular president regressions indicate that commentaries may have their strongest effects when presidents are unpopular. Perhaps they substitute for a respected leader, challenging the one that is out of favor. In addition, administration officials and the president's fellow partisans in Congress and elsewhere, when acting independently of a popular president, appear to have a negative impact on opinion, whereas they have positive effects when presidents are unpopular. In short, there may be some substantial differences in the dynamics of opinion change depending upon whether the president in office at a particular time is popular or not.

DISCUSSION

Examination of a number of specific cases of opinion change has bolstered our confidence in the aggregate findings. It has also illuminated certain issues of causal inference and has generated new hypotheses about further differentiations among different actors or sources of news. Since we have reported on the cases in detail elsewhere (Page, Shapiro, and Dempsey, 1985) we will mention only the most important points about particular news sources.

Presidents. As we have seen, public opinion tends to shift in the direction supported by a popular president. Our single equation regression analysis, however, cannot by itself exclude the possibility of reverse or reciprocal influence. Rather than leading the public, presidents may sometimes take positions (or make policy) in response to public preferences, or in anticipation of future changes in public opinion (see Page and Shapiro, 1983a). Popular presidents may be more apt to try this and more successful at it; hence, perhaps, their popularity in the first place, which is presumably augmented by taking popular

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stands.   Lacking continuous survey data between T1 and T2 we
cannot be sure that unmeasured opinion did not change well before
T2, so we cannot be sure that it did not change before the T1-T2
news reports that we have taken as causally prior. Nor, of
course, can we be sure that presidents did not anticipate opinion
changes. It is a perennial problem in studying the behavior of
conscious human beings that effects can precede observed causes
because actors can anticipate the future.

    In this situation our scrutiny of specific cases has been
helpful. It certainly has not ruled out causal complexities.
Quite the contrary; we believe that the relationship between
presidents and public opinion must be viewed as reciprocal, with
each influencing the other. But numerous cases support the
inference that presidential actions and statements reported in
the media do affect public opinion. In some cases presidential
actions have come so shortly after a T1 survey that opinions seem
quite unlikely to have changed first. In other cases where an
early unmeasured opinion change is less improbable, presidents
are not likely to have known about it (or have been influenced by
it) until the T2 survey provided the evidence of opinion change.
In a good many cases presidential actions went against (and
therefore presumably were uninfluenced by) prior trends in
opinion. In still others there appears to be no clearly
exogenous influence on public opinion and no salient cue of
opinion change to come, so that presidents are not likely to have
perceived or anticipated such a change. Examples in which we are
fairly confident that presidents influenced public opinion
include the following.

    At various times between 1969 and 1971 President Nixon (then
quite popular) was apparently able to move portions of the public
away from seeking an immediate withdrawal of U.S. troops from
South Vietnam. From mid-June to mid-November 1969 (case #412),
Nixon's announcement of the first withdrawal of 25,000 men and
his speeches favoring gradual withdrawal but "keeping
commitments," along with certain non-presidential influences,
apparently contributed to a ten percentage point drop in the
proportion of Americans favoring immediate withdrawal. Much the
same thing happened between mid-October and mid-December 1969
with respect to opinions about rapid withdrawal (#125), an
immediate ceasefire (#154), and not leaving Vietnam until the
U.S. insured South Vietnam's independence (#139).

    In subsequent months, Nixon's repeated troop withdrawal
announcements undoubtedly helped increase support for continued
withdrawal from Vietnam even if the South Vietnamese government
were to collapse (case #117), particularly among those of Nixon's

hawkish supporters who had been slow to ratify his policy. This appears to be an example of reciprocal influence, since there can be little doubt that Nixon was himself influenced by public opinion in the pace of troop pullouts. But as support for withdrawal continued to increase, Nixon in early 1971 apparently reduced support for bringing home all troops by the end of the year (#409), through his emphasis on the prisoner-of-war issue.

On policies concerning the Middle East both Presidents Reagan and Carter seem to have exerted some influence upon public preferences. In the autumn of 1981 public support for the sale of AWACs planes to Saudi Arabia rose substantially (#509) as Reagan and his administration made a strong case for it in the media. Carter, at least while he held the public's confidence, appartently had some effect as well. From autumn 1977 to spring 1978, as Carter challenged Israel's West Bank policies and expressed concern about the rights of Palestinian Arabs and floated plans to sell warplanes to Egypt and other countries, public support for paying more attention to the Arabs increased (#317). Even in the Iran hostage crisis, which ultimately caused Carter much grief, he seems to have been able to influence public opinion during his temporary surge of popularity. Early in 1980, when Carter began to talk tough about blockades or military action, the public's preference for non-military action dropped a bit (#315). (Of course, this relationship may have been reciprocal or part of it may have been spurious, with both Carter and the public responding to Iranian intransigence and American media hype.)

In U.S.-Soviet relations and national defense policy, presidents can no doubt lead the public when they are deemed credible advocates. From late spring to early autumn 1982, President Reagan made a number of strong statements and took some actions against the Soviets. He called for trade sanctions; said we can't trust the Russians, who violate human rights; expanded the ban on sale of pipe-laying equipment to the U.S.S.R.; accused the Soviets of breaking a nuclear arms agreement; and refused to relax sanctions against European firms selling equipment to them. During this period public support for relaxing tensions with Russia dropped by ten percentage points (#322).

A striking example of the importance of credibility (and perhaps legitimacy as well) involves the issues of defense spending during a mid-1974 to early 1975 period in which Nixon resigned in disgrace and Ford took office. Both presidents favored substantial military spending, but Nixon had a popularity rating of only 25 percent approval in May 1974, whereas Ford started out with a solid and respectable 50 percent in August. After Ford advocated a strong defense and opposed budget cuts,

there was a significant drop in public sentiment that too much money was going to the military (#150).

The ability of presidents to influence public opinion is by no means limited to foreign and defense matters. In the summer of 1976, President Ford probably helped push the public along in its increasing desire for a smaller government providing less services (#303). Ford was reported planning to veto a $4 billion public works bill. He stated that he was against a big government role and opposed the Humphrey-Hawkins employment bill and national health insurance. Similarly in early 1980 President Carter was reported to be drawing up a new budget with cuts for all federal departments; he then outlined and defended a tight budget. Public support for increasing, or at least not cutting, domestic programs dropped by four percentage points in a single month (#306).

A domestic policy area in which there is particularly good evidence of presidential opinion leadership is that of inflation and economic controls. Presidents Roosevelt and Truman were apparently able to lead opinion on these issues during and immediately after the second world war (see Page and Shapiro, 1984; Shapiro, 1982). A more complex case is that of the massive public shift -- by 26 percentage points -- toward favoring a wage and price freeze or stricter controls rather than the current voluntary controls, which occurred between the end of 1972 and the middle of 1973 (#132). The Nixon administration, including the Price Commission, the Cost of Living Council, and Treasury Secretary Schultz, had been removing controls and opposed greater strictnesss. But Nixon himself gave a different impression, announcing a return to a food price freeze and requiring large firms to give 30-day notice of price increases, as well as reportedly (in June) contemplating a wage-price freeze. Nixon's receptiveness to new controls may have accentuated the opinion shift, but it seems likely that the public was in large part also reacting to the removal of old controls (so that the "present system,"which the Harris poll asked about, changed meaning) and the increased inflation rate. No doubt Nixon was sensitive to public pressure and responded to the opinion shift, rather than simply leading it.

As our regression results indicate, unpopular presidents do not have as much success as popular ones at opinion leadership. In a number of our cases, unpopular presidents made serious efforts to advocate policies but failed to persuade the public. This was true of Gerald Ford's attempts to increase defense spending in 1976 (#305), and his resistance to jobs programs (#327) and health and education spending (#302) in the same year. Jimmy Carter in early 1979, with his popularity rating at 43

percent and falling, failed to rally support for SALT II (#503).
Carter was also unsuccessful at gaining significant ground on
gasoline rationing (#308), the military draft (#415), or the
Equal Rights Amendment (#309) in 1979 and 1980. Even Ronald
Reagan, near a low point of popularity (44%) in mid-1982, failed
to move opinion toward more approval of a school prayer amendment
to the Constitution (#509).

Experts. While the credibility of presidents varies with
their public standing, that of other sources may be less
fleeting. Those we have categorized as "experts," for example,
may be perceived to have objective knowledge because of their
actual or reported experience or nonpartisan service. It is not
unreasonable for members of the public to give great weight to
experts' statements and positions, particularly when complex
technical questions affect the merits of policy alternatives.
The reciprocal process, influence by public opinion upon experts,
cannot be ruled out (particularly to the extent that
audience-seeking media or others decide who is an expert worth
hearing), but it is probably not common in the short run because
experts do not face immediate electoral pressures. That is,
public attitudes may ultimately determine who are considered
"experts" and what their basic values are, but once established,
experts are less likely than presidents or other elected
officials to bend quickly with the wind of opinion.

Two striking examples of the influence of expert opinion as
reported in the media concern the Senate vote on the SALT II arms
limitation treaty. Public support for the treaty dropped 5.5
percent from February to March 1979 (#503), and 19 percent from
June to November (#323). During both periods many retired
generals and arms experts spoke out or testified against the
treaty, citing difficulties of verification and the allegedly
unequal balance of forces favoring the Soviets.

A few years later, the Reagan administration's proposed sale
of AWACs to Saudi Arabia brought forth many statements from the
foremost defense and foreign policy technocrats, including Robert
McNamara, Walter Rostow, Zbigniew Brzezinski, Harold Brown, and
Henry Kissinger. In just one month during autumn 1981, support
for the sale of the planes increased by nearly 8 perentage points
(#519).

Similarly, support for Reagan's proposed income tax cut of
1981 dropped by more than 5 percentage points between late May
and late June (#314) as economists criticized the plan. Over the
summer of 1974, public desire for a tax on large cars (to save
gasoline) declined by 11 percent when research was reported as

showing (not unexpectedly) that small cars are more dangerous in accidents than large cars (#314). In the summer of 1973 more of the public came to favor financing campaigns strictly with public funds, when the officially non-partisan General Accounting Office charged Nixon's campaign with violations of the law (#401). And the increase in support for a law forbidding handguns, which occurred as Reagan recovered from the attempt on his life in the spring of 1981, also followed news reports of research indicating that about half of all murders are committed with handguns (#405).

News commentary. The statements of news commentators and reporters themselves clearly parallel a number of instances of opinion change. In 1969, for example, when public support for immediate withdrawal from Vietnam dropped (#412), commentaries by Howard K. Smith were criticizing calls for a unilateral withdrawal and lauding Nixon for mobilizing support for his policies. At the time of the 1969-1970 rise in support for continued withdrawal (#117), comments by newsmen agreed with many other news sources about the need to get out of Vietnam and reduce American casualities.

Between December 1974 and March 1975 fewer Americans endorsed the idea of getting cheap oil by stopping military aid to Israel (#149), after commentary suggested that the way to deal with the oil crisis was to cut consumption, increase our own production, and negotiate patiently. On the other hand, from late 1974 to early 1975 more Americans felt that the U.S. should find ways to get along with the Arabs even if that meant supporting Israel less (#123). During that time Howard K. Smith said that the U.S. policy of selling arms to foreign countries like Jordan was not so bad, because with arms went American influence. And from fall 1977 to spring 1978 there was an increase in support for paying more attention to the demands of the Arabs (#317); Smith pointed out difficulties caused by Israel's firm position.

The increased support for limiting private campaign contributions that occurred between June and September 1973 (#401) followed favorable comments on all three television networks. Eric Severeid favored taking enforcement of campaign spending laws out of Nixon's reluctant Justice Department; David Brinkley advocated campaign finance reform to avoid future Watergates; and Howard K. Smith spoke up for rigorous campaign fund restrictions.

During the big 1972-73 rise in support for stricter wage and price controls (#132), David Brinkley suggested that such controls might cure Vietnam-caused inflation; they might be messy

but necessary.   Howard K. Smith supported short-term controls.

In autumn 1976 opinion moved slightly in the direction of wanting the government to fight unemployment rather than inflation (#135).   John Chancellor editorialized that inflation in the U.S. was lower than that of Canada, Britain, or France, whereas U.S. unemployment was higher. Similarly, in spring 1976, as more Americans wanted the federal government to see to jobs (#327), Howard K. Smith supported federal work projects. And in the spring of 1981, when support for Reagan's proposed tax cut fell (#314), news reports argued that the tax plan benefitted the wealthy.

Our regression estimate of large commentary effects, controlling for all other news sources, indicates that something substantial is going on. We cannot entirely rule out reciprocal effects of opinion upon audience-seeking reporters and media, but in many cases the timing of news commentary shortly after T1 polls indicates some kind of genuine influence upon opinion at T2.

The exact nature of that influence is harder to judge. We would not claim that individual news commentators like Howard K. Smith are, in themselves, the biggest sources of opinion change (cf. Freeman et al., 1955). We do not believe that Walter Cronkite single-handedly ended the Vietnam war.   Instead, the commentary we have examined may reflect the positions of many journalists or other elites who communicate through additional channels besides TV news, or even a widespread elite consensus in the country (see McClosky and Zaller, 1984).   Or our commentators' positions may be indicators of network biases, including subtle influences of reporters and editors upon the selection of news sources and the ways in which stories are filmed and reported.   Or, again, commentators and other sources with whom they agree may (correctly or not) be perceived by the public as reflecting a "climate of opinion" or emerging national consensus on an issue, which may weigh heavily with citizens as they form their own opinions (see Noelle-Neumann, 1973, 1980; Lippmann, 1922).   We cannot with our present data distinguish among these possibilites.   But news commentators either constitute or stand for major influences on public opinion.

Interest groups.   Our regression analysis indicated that groups and individuals representing various special interests taken together, have a negative effect on public opinion.   Our examination of the cases supports this point but also suggests that certain kinds of groups may have positive effects while others have negative impact.

We found many cases, more than 20, in which public opinion
unequivocably moved <u>away</u> from positions advocated by groups and
individuals representing special interests. In some cases the
groups may have belatedly spoken up after public opinion had
already started moving against their positions, producing a
spurious negative relationship. But in many cases they seem
actually to have antagonized the public and created a genuine
adverse effect.

During the 1969-70 period, for example, reports about Vietnam
protestors seem to have evoked a negative reaction to their goal
of quick withdrawal, and contributed to increases in support for
Nixon's policies. Americans have a history of opposition to
demonstrators and protestors, even peaceful ones, and apparently
did not accept the antiwar movement as a credible or legitimate
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source of opinion leadership.

Similarly, groups protesting draft registration in 1980
apparently had no effect, or a negative one, on public support
for returning to a military draft (#415). With respect to
relaxing tensions with the Soviet Union (#322), public opinion in
1982 moved substantially in the opposite direction from what was
wanted by groups demonstrating in the U.S. and Western Europe for
a nuclear freeze.

More generally, the public may be uninfluenced (or negatively
influenced) by the positions of groups whose interests are
perceived to be selfish or narrow, whereas it responds more
favorably to groups and individuals thought to be concerned with
broadly defined public interests. The best examples of the
latter in our data are environmental and perhaps also general
"public interest" groups like Common Cause.

From autumn 1973 to spring 1974, for example, support for
leasing federal land to oil companies declined (#138), as news
reports described conservationists challenging the positions of
the profit-seeking and presumably less credible oil companies.
By the same token it is not surprising that support for a freeze
on gasoline, heating, and power prices did not decline (in fact
increased a bit) despite opposition by gas station owners and oil
companies (#165).

Some cases of uninfluential groups or negatively influential
groups involve interests which could be construed either as
"special" or as broader in nature: those of blacks, women, the
poor, Jews, and organized labor. The public has not responded

positively to the statements and actions of these groups on
issues of direct concern to them, including social welfare and
related domestic policies. (#303, #306, #311). One some Middle
East Issues public opinion shifted in a direction opposite to the
stated positions of Jewish groups (#123, #317, #519).

These examples and our regression results suggest that the
public views many or most interest groups as narrow and selfish,
and that labor and other organizations have had poor reputations
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over the last fifteen years or so. This is clearly related to
the problems of the Democratic party. It means that many
mass-membership groups in the U.S. have not been able
successfully to mobilize public opinion.

Other sources. The fact that our regression analysis showed
some news sources to have, on the average, no clearly positive or
negative effects upon public opinion, does not mean that such
effects never occur. As the example of interest groups
indicates, a negligible net effect may conceal different impacts
by particular types of sources under particular conditions. If
it were feasible to subdivide our ten source categories further,
such effects would presumably be revealed by the statistical
analysis. Our examination of specific cases suggests some
directions in which such disaggregation might go.

Among the president's fellow partisans, for example, it might
be useful to distinguish administration officials from
congressional leaders, who may have more independence and a
different impact upon public opinion. In the opposition party,
too, key congressional leaders and media stars may be more
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influential than the rank and file. For foreign actors (and
other sources as well) it would perhaps be useful to distinguish
statement from actions or policies. There may be a sizeable
difference in opinion impact between a verbal threat and a
military attack. It is not easy to code either one so as to
correspond to likely opinion change. Certain prominent foreign
actors (e.g., Winston Churchill, the Pope) may merit special
treatment, and our classification of foreign sources as friendly
or unfriendly perhaps should be expanded to allow for finer
distinctions. And, as we have noted, interest groups might also
be distinguished according to the credibility and breadth of
their appeal.

Some of the strongest past challenges to the "minimal effects"
argument have come from case studies such as those on Watergate
(see Lang and Lang, 1983; Laing and Stevenson, 1976; McCleod et

al., 1977; M. Robinson, 1974); concerning the bombing attack on
U.S. marines in Lebanon, where reports of the bombing itself
outweighed weeks of other news (Fan, 1985c); and on particular
instances of news commentary and other media content
(Noelle-Neumann, 1973, 1980; Kepplinger and Roth, 1979). Such
studies can pinpoint highly credible news sources with
substantial effects.

    Events provide an especially important example of the need to
make finer source distinctions. Our aggregate analysis indicates
that events (which are generally exogenous to public opinion and
to other news sources) may have indirect effects or suppressed
                              29
effects which we have yet to untangle.   But beyond that, it
would clearly be desirable to allow for some events to have a
much greater impact than others (and with the direction of impact
determined empirically; see MacKuen, 1983; Fan, 1985c) rather
than assuming equal influence.

    Our cases suggest that certain kinds of events have
appreciable influences upon public opinion. Reported changes in
the Consumer Price Index and unemployment rates, for example, can
stand for major economic trends that are directly felt by the
public in terms of prices paid at the supermarket, wages
received, and layoffs among members of the family, friends, or
neighbors. Moreover, news reports about such economic indicators
provide cues for collectively-oriented judgments about the
national economy as a whole (see Kinder and Kiewiet, 1979).
Rising prices in 1973 no doubt contributed to the big opinion
shift toward stricter wage and price controls (#132). Rises and
declines in rates of inflation and unemployment -- directly, or
as mediated by other sources -- undoubtedly affect public
attitudes about macroeconomic policy, job programs, and the like.

    CONCLUSION

    We believe we have identified the main influences on
short-term to medium-term opinion change.

    Our analysis does not offer a full account of certain glacial,
long-term shifts in public opinion that reflect major social,
technological, and demographic changes such as rising educational
levels, cohort replacement, racial migration, or alterations in
the family or the workplace. The decades-long transformations in
public attitudes about civil liberties, civil rights, abortion,
and other matters surely rest (at least in an ultimate causal

sense) upon such social changes. If news reports play a part in such opinion shifts, it is mainly as transmitters of more fundamental forces.

We cannot be sure how many of the effects we found are temporary and how many are enduring. Nor can we easily penetrate behind the veil of what is reported in the media to discover why particular stories or sources are selected, why they are reported in the way they are, or whether biases creep into the reporting (see, e.g., Gans, 1980; Roshco, 1975).

Within the realm of short- to medium-term effects, however, and restricting our attention to the actual content of reported news, we have had striking success at finding out what moves public opinion. Our TV news variables, together with opinion at T1, account for well over 90 percent of the variance in public opinion at T2. The news variables alone account for about half the variance in opinion change.

This success is especially remarkable because of all the possible sources of error: sampling and measurement error in the original opinion surveys; imprecision in the published news summaries and our coding scheme; the varying lengths of T1-T2 periods, and our inability to model precisely lagged effects or decay rates; the lack of provision for differential audience receptivity, or different population subgroup effects (cf. Erbring et al., 1980; Shapiro and Page, 1984); and so forth, not to mention the existence of influences other than the news. Improvements in methodology would presumably strengthen the findings still further. But the fact of the matter is that the present analysis already accounts for the bulk of observed change in public opinion concerning policy choices.

The processes of opinion change are not simple. In order to account for changes between two opinion surveys, for example, it is essential to examine media content before the first survey. Discrepancies between current news and prior news (or prior opinion) are important. Part of the media impact is temporary, so that there is a tendency for opinion in the T1-T2 period to drift back, to move in a direction opposite to the thrust of the media content prior to T1. This confirms the value of sophisticated treatment of lags and of effect decays in time series models of opinion change (e.g., Erbring, 1975; MacKuen, 1983; Fan, 1985a-d).

Moreover, it is important to distinguish among news sources

rather than aggregating all media content together. The effects
of news from different sources vary widely.

We found that messages communicated through the media from or
about popular presidents have positive effects on opinion.
Presidents respond to public desires, but they can also lead
public opinion (see Page and Shapiro, 1984). Active presidential
effort can be expected to yield a five or ten percentage point
change in opinion over the course of a few months.

Experts, those perceived as having experience and technical
knowledge and nonpartisan credibility, have very sizeable
effects. A policy alternative that experts testify is
ineffective or unworkable tends to lose public favor; an
alternative deemed efficient or necessary tends to gain.

The estimated impact of news commentary is strongest of all,
on a per-story basis, though such messages are aired less
frequently than those from other sources. The causal status of
this finding, however, is in doubt. Commentary may be an
indicator of broader influences, such as media bias in the
selection and presentation of other news, or consensus among the
U.S. media or elites generally, or a perceived public consensus.

Popular presidents, experts, and news commentators have in
common a high level of credibility, which we believe is crucial
to their influence on the public. Rational citizens accept
information and analysis only from those they trust. In
contrast, news sources with low credibility, such as unpopular
presidents or groups perceived to represent narrow interests,
generally have no effect or even a negative impact on public
opinion.

Some of these findings might be thought to be limited to the
recent period we studied, in which the public has relied heavily
on TV and is better educated and more attentive to politics than
Americans in the past. Our confidence in the generality of the
findings, however, is bolstered by their strong similarity to the
findings in our previous analysis (using newspaper stories) of
opinion change from 1935 onward (see Page and Shapiro, 1983b,
1984). This similarity also reinforces the observation that the
national news media in the U.S. are very much of a piece. They
all tend to report the same kinds of messages concerning public
policy, from the same sources. This can be attributed to the
norms and incentives -- and the organizational and market
structure -- of the news industry, and especially to the
pervasiveness of the wire services (see Epstein, 1973; Gans,

1980; Roshco, 1975). The contents of one medium are good indicators of the contents of many media.

We began our study with concerns about democratic theory and about relationships involving public opinion and public policy. We sought to go beyond the finding that public opinion influences policy (Page and Shapiro, 1983a), and to investigate what in turn affects public opinion, with what normative implications. Our findings here represent an important first step.

It is interesting to observe, for example, that relatively neutral information providers like experts and news commentators have more effect (more direct effect, anyway) than self-serving interest groups. It is also interesting that popular presidents, who presumably tend to embody the values and goals of the public, are capable of influencing opinions about policy. These findings suggest that objective information may play a significant part in opinion formation and change, and that certain of the more blatant efforts to manipulate opinion are not successful.

Still, there is considerably more work to do before we can be confident about the quality of information received by the public or about the fundamental sources of influence on public opinion. In order to judge whether the public is the beneficiary of constructive political leadership and education, or whether it is the victim of efforts to deceive and manipulate, we need to know much more about the specific content of the information that influences opinion, and about what effects that content.

We need to examine the truth or falsehood, the logic or illogic, of the statements and actions of those who succeed at gaining the public's trust (see Wise, 1973; Edelman, 1964; Miliband, 1969; Bennett, 1983). This applies to the sources whose messages are conveyed through the media, and to the media themselves. There is much to learn about whether various sources lie or mislead or tell the truth; about how accurately or inaccurately the media report what the sources say and do; and about the existence and causes of any distortion or biases in the selection and reporting of the news. Clearly these matters are fundamental to the working of democracy in the United States.

FOOTNOTES

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1. We initially analyzed 40 cases (Page, Shapiro, and Dempsey, 1984). The addition of 40 new cases, which took most of a year, expanded our data base and permitted us to carry out the same analysis on two independent data sets, greatly increasing our confidence in the findings.

2. These seven cases were of special interest -- and also caused certain unforeseen difficulties -- because of President Nixon's resignation in the middle of the time period covered. When they are excluded from the analysis reported below, the findings become a bit stronger.

3. Twenty-nine cases (22 randomly selected, plus the special 7) were obtained from surveys conducted by Louis Harris and Associates; 27 from the polls conducted jointly by The New York Times and CBS (the full set of available survey items); 13 from the Gallup Poll (a sample of the appropriate and available items from the Gallup Opinion Index/Gallup Report which also had opinion breakdowns for Gallup's standard population subgroups); 5 from the Los Angeles Times Poll (all of the available items); and 6 from the NBC Poll (sample of the items). By "available" survey items, we mean those that we collected as of mid-June 1983.

Several well known surveys including the National Election Studies (SRC/CPS University of Michigan) and the General Social Surveys (NORC) have not been fielded frequently enough to meet our needs, except that some questions were repeated in pre- and post-election surveys or in the 1980 and NES 1984 panels and rolling cross-sections. We may use these data later in order to examine cases of survey questions that are fielded on schedule rather than selected for their immediate timeliness or market value by commercial survey organizations.

4. A more refined method would be to exclude only those "don't know" respondents who (because of disinterest, inattention, unawareness) lack any opinion, while including those who actually occupy a middle ground of opinion, and to model that middle ground as a space through which respondents may pass when changing preferences from one policy alternative to another. But to do this would require taking account of substantial differences among survey organizations and question wordings, either through extensive research or heroic assumptions.

5. It is important to recognize that our choice of polarity has nothing to do, a priori, with the distribution of responses to the questions. If, by contrast, we had set the most frequently chosen alternative as the positive one, any observed opinion change in a negative direction might have included some "regression to the mean," away from high percentages inflated by measurement error.

6. In a small number of cases we coded all three networks each day. This increased the measurement precision for low salience issues (which had few stories to begin with) and will also permit some comparison among networks. The media content data for these cases were weighted by one-third to ensure comparability with other cases.

7. We computed dates from the midpoints of the generally short (less than one week) interviewing periods.

8. This was done by Dempsey for all cases, with Shapiro checking some of the early work of the coders. Shapiro also checked the coding and analyzed the written summaries for detailed case studies. Any disagreements about coding were resolved through meetings and discussion. Some reliability analysis was done, with Dempsey and Shapiro coding cases independently. Their intercoder reliability coefficents for the variables coded were in the .7 to .8 range. For the all-important pro-con codes, the two authors never disagreed by more than one unit on the 5 point scale.

Coding, verifying, and keypunching the data for the 80 cases took an immense effort. More than 10,000 hours were spent on preparing the case-level aggregated data file based on 10,950 source-stories (messages or data lines). We are grateful to the following research assistants for their dilligent work: Amy Richmond, Karl Mueller, Mandy Kwock, Sasha Heid, Joe Torres, Peter McCarthy, Marianne Eismann, Chris Hill, Dan Sakura, Susan Rosenberg, Kathy Szydagis, Francis Kwakwa, John Kendzior,

Mennette Masser, Jim Martin, Lance Selfa, Bill Sullivan, Wayne
Arney, Ion Motkin, Ellen Seebacher.

9. Some kind of computerized media coding -- with computer
programs instead of human coders making the coding decisions --
would ultimately seem to be desirable, especially for doing
content analysis over long periods. At present this technology
is at a very early stage, subject to its own limitations and its
own subjectivity. (For a pathbreaking effort, see Fan 1985c-d.)
It would be extremely difficult to develop either one highly
general program or many separate coding programs for our 80
cases. Of course, computers can also be used to assemble wire
service and other news reports from publicly available data bases
and to aid coders in data entry and other ancillary tasks.

10. Our procedure of (in effect) subtracting the number of
negative source-stories from the number of positive ones assumes
that a single "pro" story has an impact of opposite sign but the
same magnitude as one "con" story from the same source. This may
not always be true; if, for example, nearly everyone favors a
particular policy, then one negative story might have more
effect. We tried separately counting pro and con stories,
allowing their weight to vary depending upon the size of the
potentially persuadable audience: that is, the proportion of the
population taking a contrary position. This is cumbersome to do
while distinguishing among news sources (being very costly in
terms of degrees of freedom, with 40 instead of 20 independent
variables for our 80 cases), and the regression equations fit the
data less well and produced coefficients that were difficult to
interpret. Fan's results (1985d) also suggest that the separate
treatment of pro and con news may not make much difference.

David Fan suggested to us a different way to take into account
the size of the potentially persuadable population. This model
produced results similar to ours but with a lower R^2.

11. Since we are using percentages as dependent variables,
there is an argument for estimating a logistic function rather
than doing a linear regression. It would certainly seem harder
for new information to raise support for a given policy from 90
to 95 percent, than to increase it from 50 to 55 percent. But
pollsters often try to word questions so as to avoid extreme
opinion splits; few of our cases depart greatly from the middle
range in which the logistic curve closely approximates a linear
function.

12. The analysis was also done for all stories, including those only indirectly relevant. The findings tend to be somewhat stronger when only the more pertinent stories are considered, as they are here and in our later tables.

We performed the analysis for average media content (mean pro-con codes) as well as for sums. Averages do not account nearly as well for opinion change, no doubt because the volume as well as the directional thrust of news is important. Hence we report the results for sums only.

13. This would be true, for example, if the effects of pre-T1 media content were entirely temporary and vanished completely by the time of T2. Then the discrepancy or change in media content (that is, T1-T2 media content variables minus the corresponding pre-T1 values of those variables) would be the best predictor of change in opinion.

14. For sophisticated efforts to do so, using longer time series (thus far rarely available for policy preference items) see Erbring (1975), MacKuen (1981), and Fan (1985a-d).

15. Our approach can be viewed as reduced-form estimation of a partial adjustment model, in which media content effects are partly temporary and partly permanent. (Diffusion models with exponential decay represent a leading alternative; see footnote 14.) Our data are not sufficient to identify the parameters of such a model, let alone to distingush among variants of plausible models or to fit different models to the effects of different news sources. The reduced form estimates are sufficient, however, to demonstrate that our variables account for most of the observed opinion change and to provide qualitative findings of interest.

16. Given our unusual sampling scheme, the reported significance levels may be taken as referring to a hypothetical universe of similar cases (weighted by survey organization), or as informal indicators of substantive significance. They also provide some protection against erroneous inferences due to random measurement errors in the survey data and media coding. As we will note below, the two-tailed t-test is quite conservative -- probably too conservative -- given our past work with different data sets.

17. The T1-T2 coefficient is probably reduced more than the pre-T1 because of measurement error due to the variation in T1-T2

period length, perhaps accentuated by the association of the above noted "falling off" or negative change in opinion with continuing positive (though weakened) news content in the T1-T2 period. This may also have produced the slightly negative estimate of total T1-T2 news upon opinion change reported in some of our earlier research.

18. The interpretation of pre-T1 coefficients is not entirely straightforward. By the logic of a partial adjustment model, they could be considered estimates (with reversed signs) of temporary effects: that is, effects that appear in the T1 opinion measurement but disappear by T2. This interpretation is complicated, however, by the apparent presence of some lagged positive effects of pre-T1 media content on opinion at T2. Since we cannot identify lags or decay rates, we cannot sort out these effects. We have therefore chosen to focus our interpretation on the T1-T2 variables' effects (not attempting to distinguish what part of them lasts how long), treating pre-T1 factors as "controls." We should note, though, that the uneven T1-T2 periods introduce measurement error that depresses T1-T2 estimates; hence the pre-T1 coefficients are more frequently significant.

19. We are indebted to Tom Ferguson for this point.

20. Our previous data analyses gave us expectations that would justify a more liberal one-tailed test. By the same token, a macro test involving all three data sets would indicate that repeated estimates of small coefficients with the same sign were highly unlikely to arise by chance.

21. It is possible that interest groups may become especially vocal when they are already losing political struggles for reasons not included in our model; their last-ditch efforts may fail with the public for the same unknown reasons, producing a spurious negative relationship with opinion change. But our examination of specific cases suggests instead that some disliked groups have genuinely negative effects on opinion.

22. Fan (1985d) reports substantial media effects upon opinion about defense spending despite the fact that all news sources are combined. It is not clear what characteristics of the defense issue and defense news produce this result or how broadly applicable it is to other issues.

23. Because of the logical relationship between pre-T1 and

T1-T2 effects for a given news source, we constrained ourselves
to drop only pairs of variables. We retained pairs for which at
least one of the variables had a coefficient greater than its
standard error.

24. We tried a number of ways of incorporating presidential
popularity in a single model for all the cases, using either
dummy variables (popular or not) or the continuous popularity
measure in interactive (multiplicative) relationships with
presidential news. Most estimates of interactions were uncertain
or unstable. The Chow test for all the first-order interactions
was not significant at the .10 level. We believe, however, that
the popular president effect and perhaps a few of the other
interactions are real, based on our case studies and on the
F-test for a more restricted set of interactions (p<.10).

25. Mark Petracca and Jeffrey Tulis, among others, have
emphasized this point.

26. This is not to deny, of course, that protestors may
ultimately have played a role in moving the public and policy
makers against the war (see Burstein and Freudenberg, 1978;
Burstein, 1979). They raised the domestic costs of the war and
expanded its visibility; and in the long run many of their
positions met the test of reality and were accepted as correct.

Our findings on Vietnam war issues complicate any arguments
that might be made about a "liberal" press bias, since there were
"conservative" effects of commentaries and coverage of President
Nixon and antiwar protestors. Caution is in order in appraising
the direction of the media's ideological bias, if any (cf.
Rothman, 1979; Braestrup, 1978; Gans, 1980; M. Robinson, 1985).
We plan to pursue these matters further.

27. Ideally one would consult survey data bearing directly
upon the credibility and popularity of such groups and other
political actors. The fragmentary available data support our
assessment of the relatively low level of public esteem in recent
years for organized labor, various special economic interests,
and certain politically liberal interest groups, as well as the
greater credibility of environmental and public interest groups
and television commentators (see Lipset and Schneider, 1983;
John, 1985; Dickenson et al., 1985; Freeman et al., 1955).

28. Our case studies do not corroborate the peculiar
implication of Table 3, that members of the opposition party can

influence public opinion more when the president is popular than when he is not. The opposition seems to be most influential when popular presidents are reticent or (for some reason) not effective in moving opinion, or when they are not as popular as they seem. (In some of these cases presidents were declining in popularity after T1.) The net effect of the opposition party is probably best estimated in Table 2, although party members' behavior may on occasion involve a more complex reciprocal relationship with opinion.

29. Before we controlled for other sources, events (the T1-T2 pro-con sum) were significantly related to opinion change: a b-coefficient of 1.11 (t=2.56, P<.05), while controlling for pre-T1 events (b=-0.80, t=-1.44, n.s.). This suggests that events may have large indirect effects through other sources, which we plan to examine further.

30. See, for example, Davis (1979). We are presently working on a monograph about changes in public opinion in the U.S. since 1935, which will consider such factors as well as media-reported influences.

APPENDIX A

POLICY ITEM DESCRIPTIONS

CASE NUMBER	SURVEY ITEM	CHANGE IN PERCENT FAVORING OR AGREEING FROM T1 TO T2	SURVEY ORG.	T1 to T2 DATES*
115	Break up major oil companies	-0.4	Harris	11/25/75-3/17/76
116	Alleviate oil, gas and electricity shortages by selling tax free bonds to finance nuclear power plants	+0.6	Harris	9/25/73-4/3/74
117	Continue withdrawal of of U.S. troops even if South Vietnam govt. collapses	+9.5	Harris	10/10/69-4/15/70
122	Set up new govt. agency to protect consumers	-1.3	Harris	8/30/76-10/24/76
123	Better relations with Arabs because of our need for oil even if it means supporting Israel less	+10.2	Harris	12/15/74-3/8/75
124	Dissolution of each federal agency every 4 yrs. unless it can justify its expenditures	+3.1	Harris	8/30/76-10/24/76
125	Vietnam war morally wrong and we should get out as soon as possible	-6.0	Harris	10/10/69-12/11/69
126	Pay Board should get tougher with requests for pay increases	-7.3	Harris	6/15/72-12/14/72
127	Coalition govt. in Saigon including Communists if only way to get peace in	-1.5	Harris	8/30/72-10/4/72

Vietnam

132	Present system of price and wage controls rather than a wage-price freeze	-26.5	Harris	12/14/72-6/15/73
134	Alleviate oil, gas and electricity shortages by establishing a progressive tax that would penalize owners of larger cars	-10.8	Harris	9/25/73-4/3/74
135	Federal economic policy: lowering inflation more important than lowering unemployment	-2.0	Harris	8/30/76-10/24/76
137	Federal program giving jobs to unemployed	-3.0	Harris	8/30/76-10/24/76
138	Alleviate oil, gas and electricity shortages by leasing more federally owned lands to oil companies for exploration	-7.1	Harris	9/25/73-4/3/74
139	U.S. can't leave until it has insured South Vietnam's Independence	+4.3	Harris	10/10/69-12/11/69
143	Raise taxes on U.S. companies	-6.4	Harris	5/22/74-1/15/75
146	Agreement between Russia and U.S. for settlement of Middle East problem	-8.6	Harris	6/15/71-2/15/72
147	Tough laws prohibiting corporations from making illegal political contributions at home and abroad	-1.0	Harris	8/30/76-10/24/76

149	Get enough Arab oil at lower prices by stopping military aid to Israel	-8.5	Harris	12/15/74-3/8/75
150	Too much tax money goes to military for defense	-7.6	Harris	5/22/74-1/15/75
152	Eliminate depletion allowance for oil tax shelter	-9.1	Harris	5/22/74-1/15/75
154	Immediate cease-fire in Vietnam with each side holding the ground it now occupies	-5.9	Harris	10/10/69-12/11/69
155	Federal capital gains taxes are too high	-8.5	Harris	5/22/74-1/15/75
158	State sales tax is too high	-6.9	Harris	5/22/74-1/15/75
159	Busing for desegregation	-2.5	Harris	8/30/76-10/24/76
161	Liquor Taxes are too high	-14.2	Harris	5/22/74-1/15/75
164	Use of Phase 4 system of controls for another year	+8.6	Harris	10/13/73-1/2/74
165	Alleviate oil, gas and electricity shortages by freezing all gasoline, home heating, and power prices that consumers pay	+2.1	Harris	9/25/73-4/3/74
167	Price Commission should get tough on enforcing price controls on clothing stores	+1.4	Harris	6/15/72-12/14/72
301	Constitutional amendment prohibiting abortions	-8.3	NYT/CBS	9/20/80-10/1/80

302	Balance budget even if less money for programs such as health and education	-1.1	NYT/CBS	3/21/76- 6/17/76
303	Smaller govt. pro- viding less services	+7.6	NYT/CBS	6/17/76- 10/10/76
304	Busing for desegreg- ation	-0.9	NYT/CBS	1/28/81- 6/24/81
305	Increase govt. spend- ing for military defense	+0.9	NYT/CBS	4/12/76- 6/17/76
306	Increase govt. spend- ing on domestic pro- grams	-4.2	NYT/CBS	2/15/80- 3/14/80
307	Relax pollution laws to help solve energy crisis	-2.8	NYT/CBS	2/5/76- 4/12/76
308	Govt. should ration gasoline	-11.5	NYT/CBS	6/5/79- 7/10/79
309	Equal Rights Amend- ment	+1.6	NYT/CBS	6/20/80- 10/18/80
310	Increase federal spending on milit- ary and defense	-7.8	NYT/CBS	1/28/81- 4/24/81
311	Increase federal spending on Food Stamps	-2.6	NYT/CBS	1/28/81- 4/24/81
312	Increase federal spending on dom- estic programs	+0.7	NYT/CBS	9/12/80- 10/18/80
313	Large income tax cut	+0.3	NYT/CBS	9/20/80- 1/28/81
314	Reagan's proposed cuts in income taxes	-5.4	NYT/CBS	4/24/81- 6/25/81
315	Use of non-military (economic) weapons on Iran	-6.0	NYT/CBS	1/11/80- 4/12/80
316	Replace Kissinger as	+0.7	NYT/CBS	5/21/76-

Secretary of State   6/18/76

317	Pay more attention to Arab demands because of our need for oil even if it means antagonizing Israel	+7.0	NYT/CBS	10/25/77-4/5/78
318	Send troops to pro-tect our oil sources in Middle East if supply is threatened	-3.8	NYT/CBS	2/15/80-3/14/80
319	U.S. participation in 1980 Summer Olympics in Moscow even if Soviets remain in Afghanistan	+1.3	NYT/CBS	2/15/80-4/12/80
320	Treaties giving Panama control of the Panama Canal in the year 2000	-0.9	NYT/CBS	10/25/77-1/10/78
321	It is not in our interest to be so friendly with Russia because we are getting less than we are giv-ing them	-1.2	NYT/CBS	4/13/76-6/18/76
322	Relax tensions with Russia	-10.2	NYT/CBS	5/21/82-9/16/82
323	Strategic Arms Lim-itation Treaty (SALT II)	-19.4	NYT/CBS	6/5/79-11/1/79
324	Strengthen Social Security system even if higher taxes needed	-0.4	NYT/CBS	3/21/76-4/13/76
325	Elimination of most welfare programs	-4.7	NYT/CBS	3/21/76-6/18/76
326	Reduce govt. spend-ing for health, education, and pro-grams for the poor	+1.8	NYT/CBS	3/21/76-4/13/76

327	Favor federal govt. seeing that every person who wants to work has a job	+3.4	NYT/CBS	3/21/76– 6/18/76
341	Allow women to have abortions	+3.4	LA Times	8/1/81– 1/5/82
342	Law requiring police permit before purchase of handgun	−2.9	LA Times	1/20/81– 4/15/81
343	Embargo of grain to Russia	−1.3	LA Times	11/11/80– 4/15/81
344	SALT II nuclear weapons agreement	+2.1	LA Times	11/11/80– 4/15/81
345	Reduce taxes in order to stimulate business	+8.6	LA Times	8/24/82– 11/16/82
401	Federal govt. provide a fixed amount for presidential and congressional candidates and private contributions prohibited	+6.3	Gallup	6/2/73– 9/9/73
402	Bring back wage and price controls	+2.5	Gallup	4/15/78– 7/9/78
403	Make wage-price controls more strict	−7.0	Gallup	3/25/72– 8/27/72
404	Should be against the law to employ a person who has come into the U.S. without proper papers	−9.6	Gallup	3/26/77– 10/2/77
405	Forbid the possession of handguns except by the police and other authorized persons	+3.0	Gallup	4/4/81– 6/1/81
406	Keep the present 55 mile-per-hour speed limit	−6.2	Gallup	9/13/80– 2/15/81
407	Death penalty for persons convicted	−0.2	Gallup	10/30/71– 3/4/72

of murder

408	Busing Negro and white children from one school district to another	-2.6	Gallup	8/28/81-10/10/71
409	Bring home all U.S. troops from Vietnam before the end of this year	-6.6	Gallup	1/9/71-2/20/71
412	Withdraw all our troops from Vietnam immediately	-9.6	Gallup	6/15/69-11/15/69
413	Reduce month by month the number of U.S. troops in Vietnam	+4.0	Gallup	1/15/69-6/25/69
414	After withdrawal of troops, U.S. should continue to send military aid to South Vietnam	-15.1	Gallup	7/15/72-12/1/72
415	Return to military draft at this time	+0.9	Gallup	2/2/80-7/13/80
501	Diplomatic recognition of Cuba by the U.S.	-14.6	NBC	4/25/77-6/22/77
503	U.S.-Russia agreement which would limit nuclear weapons	-5.5	NBC	2/5/79-3/20/79
504	Freeze on the production of nuclear weapons by U.S. and Russia	-0.6	NBC	6/14/82-10/19/82
505	Fair housing and fair employment laws for homosexuals	+1.1	NBC	6/27/78-10/17/78
509	Constitutional amendment permitting organized prayers in public schools	-2.5	NBC	5/10/82-8/10/82

519   Sell AWACs advanced   +7.5   NBC   9/28/81-
       radar planes to   10/26/81
       Saudi Arabia

* T1 and T2 survey dates are <u>midpoints</u> for the interviewing
periods, which cover less than one week.

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TABLE 1

TOTAL TELEVISION NEWS CONTENT

AND OPINION CHANGE

"Relevant" Stories Only

INDEPENDENT VARIABLES	Unstandardized Regression (b) Coefficient (t-value for b)
Opinion at T1	0.95* (23.12)
Two Months Pre-T1 TV News Content (sum of pro-con scores)	-0.29* (-3.69)
TV News Content Between T1 and T2	0.11 (1.96)
Intercept	0.24 (0.10)
R^2	.88
adjusted R^2	.88

Entries are based upon a regression of the percentage level of opinion at the time of the second (T2) survey on the level of opinion at T1 and the total media content variables (sums of pro-con scores), for all 80 cases.

* Significant at the .05 level or better by a two-tailed test.

TABLE 2

OPINION CHANGE AND TELEVISION

NEWS FROM VARIOUS SOURCES

Relevant Stories

INDEPENDENT VARIABLES		(1)	(2)
Opinion at T1	b	0.97*	0.97*
	(t)	(23.82)	(25.95)
Pre-T1 News			
President		-0.47*	-0.42*
		(-2.43)	(-2.48)
Party of president		-0.07	
		(-0.32)	
Opposition party		-0.51*	-0.53*
		(-2.51)	(-2.75)
Interest groups		-0.29	-0.23
		(-1.34)	(-1.17)
Events		-0.53	-0.44
		(-0.99)	(-0.90)
Commentary		2.16	1.87
		(1.79)	(1.66)
Experts		-0.16	0.00
		(-0.11)	(0.00)
Foreign - friendly, neutral		0.22	
		(0.34)	
Foreign - unfriendly		-0.19	
		(-0.37)	
Courts		1.37	1.77
		(0.72)	(-1.01)

News Between T1 and T2

President	0.30 (1.34)	0.23 (1.61)
Party of president	-0.09 (-0.73)	
Opposition party	0.44 (2.00)	0.46* (2.39)
Interest groups	-0.38 (-1.93)	-0.33* (-2.00)
Events	0.54 (1.27)	0.55 (1.52)
Commentary	4.34* (4.25)	4.17* (4.57)
Experts	3.37* (2.32)	2.85* (2.64)
Foreign - friendly, neutral	0.08 (0.14)	
Foreign - unfriendly	0.48 (0.99)	
Courts	-2.02* (-2.22)	-2.08* (-2.40)
Intercept	-1.34 (-0.56)	-1.11 (-0.49)
R^2	.94	.94
adjusted R^2	.91	.92

Entries are based upon regressions of opinion at T2 on opinion at T1 and the sums of the relevant pro-con news story scores from various sources, for all 80 cases.

* Significant at the .05 level or better by a two-tailed test.

TABLE 3

PRESIDENTIAL POPULARITY AND NEWS

EFFECTS ON OPINION

Relevant Stories

INDEPENDENT VARIABLES		Popular Presidents (N=35)	Unpopular Presidents (N=45)
Opinion at T1	b	0.89*	1.00*
	(t)	(10.78)	(16.77)
Pre-T1 News			
President		-0.64	-0.66
		(-0.97)	(-1.50)
Party of president		-0.19	-0.50
		(-0.32)	(-0.77)
Opposition party		-0.69	-0.71
		(-1.14)	(-1.22)
Interest groups		-1.19	-0.52
		(-1.54)	(-1.28)
Events		-3.07	0.63
		(-1.24)	(0.70)
Commentary		1.00	1.85
		(0.51)	(0.57)
Experts		-3.64	-4.44
		(-1.35)	(-1.09)
Foreign - friendly, neutral		0.91	1.86
		(0.75)	(1.10)
Foreign - unfriendly		-0.61	-15.55
		(-0.71)	(-0.96)
Courts		-2.52	2.19
		(-0.37)	(0.76)

News Between T1 and T2

President	0.58 (1.55)	0.05 (0.05)
Party of president	-0.41 (-1.79)	0.40 (0.82)
Opposition party	0.84* (2.18)	0.23 (0.50)
Interest Groups	-0.15 (-0.44)	-0.46 (-0.41)
Events	0.53 (0.53)	1.15 (0.60)
Commentary	2.51 (1.56)	6.16 (1.74)
Experts	7.86 (1.46)	6.89* (2.39)
Foreign - friendly, neutral	-2.57 (-1.94)	-0.51 (-0.46)
Foreign - unfriendly	-1.04 (-1.07)	3.78 (0.73)
Courts	0.52 (0.26)	-0.91 (-0.56)
Intercept	4.82 (1.02)	-3.72 (-1.01)
R^2	.97	.95
adjusted R^2	.93	.91

Entries are based on regressions of opinion at T2 on opinion at T1 and the sums of the news story pro-con scores from various sources. "Popular" presidents had Gallup poll approval ratings of 50 percent or more at T1; unpopular presidents had ratings under 50 percent.

* Significant at the .05 level or better by a two-tailed test.