
SCOTT ALTHAUS
Northwestern University

Much of the recent literature about political knowledge and public opinion concludes that the low information levels of the American public are benign to the workings of democracy. However, this study finds that the information resources possessed by rival publics are critical determinants of how loudly their preferences are voiced in policy-oriented survey questions. Ill-informed respondents tend to select "no opinion" more frequently and, when they provide responses, answer more randomly than the well informed. Because of this, numerically small publics who have large proportions of well-informed constituents can significantly influence the frequency marginals of information-dependent questions. As informed persons also tend to be affluent, respondents from higher income groups can act as "informed minorities" that cause opinion marginals to overstate the magnitude of economically conservative opinion in a population.

Keywords bias, collective rationality, media polls, opinion surveys, political knowledge, public opinion, representation, social choice

All democratic societies provide that their citizens exert some measure of control over governmental representatives and, for more than 200 years, the traditional mechanism for democratic control has been the election. In the past fifty years, however, elections have been supplanted by opinion surveys as a common means of judging elite accountability to the public will. Opinion surveys have the added benefit of creating a feedback loop between elites and the public on matters of societal concern. Their dual role—as control mechanisms and as coordinating systems—has built opinion surveys into a premier, if unofficial, tool for regulating the democratic processes of American society.

One long-standing concern about the usefulness and validity of survey data as inputs to the political process arose from the finding that large segments of the American population habitually ignore the world of public affairs (Berelson et al., 1954; Campbell et al., 1960; Key, 1961; Converse, 1964; Patterson, 1980). This finding forced opinion scholars to come to grips with an apparent paradox between the
knowledgeable and astute public presumed by democratic theory and the frequently inattentive and uninformed public revealed in opinion surveys (Neuman, 1986).

Most opinion scholars today consider this paradox resolved for two reasons. First, recent studies influenced by developments in cognitive psychology have shown that while most people are ill informed about public affairs, they are nevertheless able to form opinions consistent with their interests by basing their preferences on heuristic shortcuts—interpretive schema or cues from political elites—in place of factual knowledge (Graber, 1988; Iyengar, 1990; McKelvey & Ordeshook, 1990; Ottati & Wyer, 1990; Stimson, 1990; Popkin, 1991; Sniderman et al., 1991). Second, the process of statistical aggregation can create collective public opinion that is meaningful even when many respondents provide answers that are ill informed, ambivalent, uncertain, or even arbitrary (Converse, 1990; Stimson, 1991; Page & Shapiro, 1992; MacKuen et al., 1993). When aggregated, this argument goes, the more or less random responses from ill-informed or unopinionated respondents should tend to cancel each other out, leaving the nonrandom views of informed and opinionated respondents reflected in the parameters of the collective opinion distribution. In this way aggregated opinion may be able to reflect the public's will even when most individuals are uninformed or inconsistent in their views.

The power of the aggregation process to gather individually noisy opinions into a coherent and "rational" collectivity is held by many to be the reason why low information levels are of little consequence to the proper functioning of democracy and, more narrowly, to the validity of opinion surveys. But if informed respondents have different preferences and interests than mis- or uninformed respondents, then collective opinion may fail to give proportional weight to all the voices in a society (Converse, 1990). Because well-informed respondents tend to come from higher socioeconomic status groups (Delli Carpini & Keeter, forthcoming), opinion surveys may overrepresent public support for policies preferred by an "informed minority" whose interests are at odds with those of the ill informed. If this is the case, then the public's low levels of information may not be as benign to the political process as is commonly supposed. It may be that the social distribution of political knowledge creates information effects that cause measures of collective opinion to misrepresent the public's views about government policies, views that would be proportionally represented if political knowledge were distributed more evenly.

Most issues addressed in media polls should be relatively immune to influence by an informed minority because three conditions must be met before such a group could skew an opinion distribution: (1) Groups in a society must have conflicting interests over the outcome of a policy; (2) factual information must be required to form a meaningful (nonrandom) opinion about the policy; and (3) the relevant information must be distributed unevenly among the competing groups. One or more of these conditions probably fails to obtain for most topics covered in opinion surveys, but the issues on which all three conditions are most likely to be met are close to the heart of democracy: the redistribution of wealth, elite accountability to the public will, and referenda that call on the public to voice policy preferences.

This study is a modest attempt to explore the representativeness of a special variety of collective opinion measures: media-sponsored survey questions that ask what the government should do about a variety of issues. After discussing the importance of media polls to the political process and exploring why these polls may be especially susceptible to information effects, this study details how informed
respondents might unintentionally skew measures of collective opinion and tests for such bias in a sample of CBS/New York Times national surveys.

**Media Polls: Opinion That Counts**

When social scientists want to explore the public's attitudes toward an issue, they can easily retrieve data from a rich variety of academic sources, foremost among them the General Social Surveys and the National Election Studies. However, when politicians and private citizens want to consult the latest opinion polls on matters of national concern, they must generally turn to the news media. This difference is of great significance, for it turns out that data from the first sphere of opinion information—accessible mainly to academics—are generally hard to find in the second, more public sphere.

Instead of drawing from academic sources of survey data, the media tend to report only those polls that are commissioned by news organizations or are released to the media by nonacademic sources. A recent study of poll-related stories that appeared in the *Chicago Tribune* over an eighteen-month period (Ladd & Benson, 1992) showed that half of all stories containing public opinion data cited media-sponsored polls. The other half relied mostly on nonacademic surveys: 4 percent of all opinion-related stories cited polls conducted by political candidates or parties, 13 percent by government agencies or corporations, 10 percent by lobbying groups, and only 11 percent by education or research organizations. Not once did any data from the General Social Surveys or the National Election Studies appear in the paper. It may not be too far off the mark to suggest that media polls and the particular sources of opinion data carried in the media stream make up the opinion that counts for politicians and the public.

In recent years opinion polls conducted by media organizations have become commonplace. More than 80 percent of major newspapers and half of television stations now conduct or commission opinion polls (Ladd & Benson, 1992). The reasons for this are many: Opinion polls allow reporters to verify independently the claims made by politicians and interest groups, they help explain electoral outcomes, they provide insight into the public's political and social attitudes, and they allow news media to scoop rival organizations and increase their market shares. In short, polls help journalists decide what is news. As a by-product of this process, media institutions reveal the public's views on a wide range of issues and help to gauge the accountability of politicians to public preferences (Dionne, 1992; Mann & Orren, 1992).

While the precise impact of these opinion surveys on policy outcomes is still unclear (Jacobs & Shapiro, 1994; Page, 1994), the influence of polls on the political process is unmistakable. Media polls are used by interest groups and political activists to devise strategies for applying political pressure and to inform them about which candidates are worthy of financial support (Traugott, 1992). Politicians use media polls to determine the best ways to pursue policy goals and win elections. Polls are also used rhetorically by political elites to generate impressions of mass support for proposed and existing policies (see Herbst, 1993). In the 1988 presidential election, news stories featuring preelection surveys influenced public perceptions of which candidate would be the winner to the extent that one in five nonvoters said they abstained from voting in part because the polls predicted an easy Bush victory (Lavrakas et al., 1991).
Given the influence of media polls on the political process, it is important to point out that media polls should tend to tax the information resources of respondents more than the average academic survey. Media polls should be more prone than academic surveys to information effects because they tend to focus as much on policy means as on policy ends, because they are timed to coincide with unfolding controversies, and because they are reported as simply as possible.

Academic survey questions tend to focus on broad policy goals rather than evaluations of specific policies, in part because social scientists are interested in exploring latent attitudes, causal relationships, and historical trends in mass sentiment. Meaningful answers to such questions depend only on the degree to which the opinion expressed corresponds to a stable, underlying attitude. For example, no factual information is required to answer this question from the National Election Studies: “Some people feel the government in Washington should see to it that every person has a job and a good standard of living. Others think the government should just let each person get ahead on their own. Where would you place yourself on this scale, or haven’t you thought much about this?” To the degree that surveys focus on subjective attitudes or beliefs about policy goals rather than any specific examples of government policy, they pose no special disadvantage to ill-informed respondents.

Media polls, on the other hand, may be more open to information effects because they tend to focus on policy means—the various bills, directives, or plans designed to accomplish broad policy goals—as much as on policy ends. Respondents to media surveys are commonly asked to evaluate policies by name or to locate their preferences relative to a specific policy statement, as in this example from CBS/New York Times: “The Senate has been considering the U.S. treaty with the Soviet Union which limits strategic nuclear weapons—called SALT. From what you know about this SALT treaty, do you think the Senate should vote for or against it, or don’t you know enough about it to have an opinion?”

Because such questions draw directly upon information resources possessed by respondents, heuristic shortcuts may be of little use to respondents in formulating meaningful answers. Take, for instance, the following question asked by CBS/New York Times in response to issues raised in the 1980 presidential primaries: “Suppose the government limited wage increases to a rate considerably lower than the present rate of inflation. Would you be willing or not willing to have your own wages restricted that much?” With this particular question, respondents had to know three things to provide an informed answer: They had to know what the rate of inflation actually was, a sense of the dollar amount by which their wages would increase at the current inflation rate, and how much annual income they would lose if their wage increase was “considerably lower” than the rate of inflation. Respondents lacking any of this information would be hard pressed to provide a meaningful answer, even though they might have opinions on wage restrictions in general.

The timing of media polls on public affairs can also contribute to the emergence of information effects that bias collective opinion measures. News organizations tend to ask policy questions only when policy issues are being contested in public forums or elite circles. For example, James Dearing (1989) has shown that mass media coverage set the polling agenda for AIDS in the early to mid-1980s. Noting that 84 percent of the survey questions about AIDS were sponsored by mass media organizations, he found that questions on AIDS were usually asked
from ten to twenty days after substantial media coverage was given to the issue. If we can extend Dearing's findings to the more general interaction of media coverage and media polling, then we find considerable support for the knowledge gap hypothesis (Tichenor et al., 1970). Tichenor and his colleagues argued that while knowledge gaps between socioeconomic strata should gradually narrow over time as information permeates the public, media coverage tends to decline on an issue before this closure occurs. Given Dearing's conclusion that media polls are conducted on issues within a few weeks of receiving significant coverage, there may be consistently large differences in the amount of information available to different demographic groups at the time they are sampled.

A third factor making media polls more vulnerable to information effects is the way polling data are reported by news organizations. Marginal frequencies of poll questions are commonly the only data made available for public consumption because abstract descriptive statistics, such as means or medians, are thought to be too "highbrow" for news consumers. Driven by the need to interpret polling data in a simplistic and straightforward manner, journalists naturally emphasize the option favored by a majority of respondents. This focus on majority opinion has a profound consequence: While measures of central tendency tend to underestimate the magnitude of informed opinion, majority preferences can be almost completely determined by the distribution of informed responses (Althaus, 1995). Even as an emphasis on majority preferences makes it possible for collective opinion to be "rational" despite the public's low levels of political knowledge (Page & Shapiro, 1992), this same emphasis can allow a small group of informed respondents whose interests may be at odds with those of the ill informed to influence the reported shape of public opinion disproportionately.

Policy questions that ensure that meaningful answers can be given only by those who possess substantive knowledge are biased against those who have preferences but lack such knowledge. These kinds of questions are nevertheless common to media polls, and they may provide the only measures of public attitudes toward current or pending government action available to many political elites. It therefore becomes important to see whether the distribution of preferences among the well informed represents adequately that of the ill informed.

**Information and Representation in Opinion Surveys**

It is no mystery why so many are so in the dark about public affairs. The time and effort it takes to become informed is very costly for most people—costly in lost opportunities to pursue other goals and in the expenditure of scarce resources that could be put to better uses (Downs, 1957; Popkin, 1991). Given that few people have time or money to squander, most find that the high opportunity costs make it irrational for them to become informed on matters that may be important to the larger society but that remain tangential to their everyday living.

Yet some people are better informed than others in spite of the costs involved. Downs's cost/benefit view of information acquisition leads to the prediction that members of this informed public tend to share several characteristics. They should be well educated, because formal education is a very efficient means of imparting knowledge and of building the cognitive skills necessary to structure that knowledge in meaningful ways. Besides being educated, informed people should also tend to have higher incomes than ill-informed people. Affluent persons are more
likely than others to acquire economic and political information through their daily activities. They may also be pressured by their social environment to keep up with current events (Katz & Lazarsfeld, 1955). All of this reduces the opportunity costs of policy-related information for persons in the upper income strata. So while politically relevant information is not possessed solely by members of higher socioeconomic status groups, the economics of information acquisition suggest that the better educated and more affluent citizens should be the most consistently informed about political affairs, a finding that has been supported in several empirical studies (Neuman, 1986; Delli Carpini & Keeter, 1992; Zaller, 1992; Dimock & Popkin, 1995; Delli Carpini & Keeter, forthcoming).

Besides sharing demographic attributes, well-informed persons as a group distinguish themselves from the ill informed in three important ways that contribute to information effects. First, the well informed tend to be more economically conservative and socially liberal than the ill informed. Several studies have shown that higher levels of education have a slight liberalizing effect on attitudes about social issues such as minority rights and abortion, while higher levels of income are strongly related to conservative stances on economic and, particularly, domestic spending issues (Knoke, 1979; Knoke et al., 1987; Himmelstein & McRae, 1988). Larry Bartels (1990) found that even when controlling for the effects of income on responses to a variety of domestic policy questions, the most informed and intelligent respondents consistently had more conservative preferences than other respondents.

A second difference is that informed respondents are less likely than the ill informed to answer "don't know" (DK) or "no opinion" to survey questions that depend on information for meaningful answers. When responding to questions premised on substantive knowledge, most ill-informed people give DK responses rather than guess wrongly (Schuman & Presser, 1980). For instance, in one survey nine out of ten people correctly defined what a veto was. Those people were then asked: "If the president vetoes a bill, can Congress override his veto?" Of those who did not provide a correct answer, five times as many respondents gave a DK response as an incorrect one (Delli Carpini & Keeter, 1991: Table 1; see also Rapoport, 1982). When asked which political party controls the Senate, almost twice as many respondents in the same survey gave a DK response as an incorrect one.

The propensity to give a DK response is not distributed randomly among survey respondents. Its strongest and most consistent relationship is with education level: In general, better educated respondents are less likely to give DK responses (Francis & Busch, 1975; Converse, 1976; Faulkenberry & Mason, 1978; Schuman & Presser, 1981). Besides education, DK responses have been related to income level, low issue salience, lack of efficacy, and low levels of political involvement (Francis & Busch, 1975; Converse, 1976; Schuman & Presser, 1981). As expected from a costly information approach, the likelihood of giving DK responses is greatest for the least knowledgeable respondents.

A third key difference is that knowledgeable respondents tend to answer survey questions less randomly than ill-informed respondents. A person's opinions on many issues can be highly unstable over time, so much so that some appear to be nothing more than random "nonattitudes" (Converse, 1964, 1970; Markus & Converse, 1979; Neuman, 1986; although see Achen, 1975, and Nie & Andersen, 1974). More recent work has confirmed that higher levels of political knowledge are associated with less variable opinions among participants in panel studies, as predicted by the nonattitude literature (Feldman, 1989). In their path-breaking study on politi-
Opinion Polls, Information Effects, and Political Equality

According to Michael Delli Carpini and Scott Keeter (forthcoming), “compared with education, family income, interest in election campaigns, and general attention to politics, information was by far the strongest predictor of stable opinions.”

Taken together, these three differences between knowledgeable and ill-informed respondents may combine to distort the representativeness of collective preferences in opinion surveys. When well-informed respondents are overrepresented in the ranks of opinion givers, the perspectives of higher socioeconomic groups may come to have a disproportionate numerical weight in surveyed opinion measures. More important, if well-informed respondents share a common outlook on an issue that differs from the dominant view among less knowledgeable respondents, the more concentrated distribution of informed preferences can have an exaggerated influence on the shape of frequency marginals. The possibility that a cohesive minority could overdetermine collective outcomes has been raised elsewhere (Davis et al., 1970), but the logic behind this assertion is somewhat counterintuitive and bears illustration.

Figure 1 shows a dichotomous opinion distribution composed of 100 people divided into two groups. Suppose that a sample consists of seventy ill-informed respondents and thirty well-informed ones. When asked whether they favor or oppose policy X, the larger group of ill-informed respondents distributes with a majority siding against the measure, forty opposed and thirty in favor. Of the smaller group of well-informed respondents, all favor the policy. An observer looking only at the overall marginal frequencies would conclude that 60 percent of the public favors the policy and 40 percent opposes it—a clear indication of public support. But this level of support results from the cohesive distribution of well-informed respondents overlying the more random distribution of ill-informed opinion. All other things being equal, if the opinions of the well informed had distributed as loosely as those of the ill informed, the aggregate result would have shown a public opposed to the plan: 53 percent against and 47 percent favoring.

Because information effects are just beginning to receive sustained attention from political scientists, few empirical studies have tested explicitly for this sort of

![Figure 1. Distributions of well- and ill-informed respondents.](image)
bias. Two approaches have been used to date: comparisons of filtered and unfiltered versions of identical policy questions, and simulations of “fully informed” publics based on survey data. Evidence of bias from the first approach is mixed. Schuman and Presser (1981) were unable to find any general personality or social characteristics to differentiate between “floaters”—those who gave answers to standard-form questions but DK responses to filtered questions—and nonfloaters. Bishop et al. (1983) found that the standard form of domestic policy questions tended to produce response patterns in which a majority favored liberal stances such as government intervention in economic affairs. When filters were added, however, DK responses increased by 27 to 48 percent and the marginals consistently reversed so that, of the remaining respondents, a majority favored more conservative stances such as private-sector approaches to economic problems.

Results from the second approach show a consistent bias in election results and aggregate policy preferences that favors the views of informed citizens. Larry Bartels (1994) found relatively uninformed voters more likely to support Democrats in presidential elections, so that Democratic presidential candidates tended to do 2 percentage points better than they would if everyone were as knowledgeable as the most informed voters. Delli Carpini and Keeter (forthcoming) determined that collective opinion on racial issues, gay rights, the role of women in society, AIDS, and environmental protection would shift in a liberal direction if all respondents were equally informed.

While these studies suggest that information effects may have profound consequences for the interpretation of survey results, none of them presents a comprehensive test of such effects across a range of issue domains. Moreover, none of them tests for bias in media polls, which should be the most vulnerable to information effects. The analysis that follows attempts to extend the findings of earlier studies by testing for representation problems across a variety of policy issues addressed in media polls.

**The Influence of Informed Minorities on Collective Opinion**

Data for this analysis were drawn from CBS/New York Times national surveys conducted between January 1980 and November 1984. The 1980–1984 time span was chosen because Ronald Reagan’s first administration introduced many significant shifts in national policy that marked a new era of American governmental action (see Ferguson & Rogers, 1986; Phillips, 1990). Many of these changes demanded public input into the policy process, and an analysis of survey data from these years should provide a good test of the public’s ability to become informed about critical national issues and to communicate policy preferences through the medium of opinion polls.

During this time 247 CBS/New York Times questions were administered that asked respondents what the government should do about a particular issue. Question topics ranged from whether the United States should introduce a constitutional amendment outlawing abortions to whether the government should spend more or less on food stamps to whether the United States should sell AWACS radar planes to Saudi Arabia.

To facilitate analysis, questions were grouped into five broad categories: foreign affairs, fiscal issues, operative issues, tax issues, and social or moral issues.
The foreign affairs category included questions on how the United States should respond to foreign crises and whether American arms sales and military interventions would be appropriate actions. Fiscal issues included questions evaluating Reagan's budgetary policy, outlays for defense, domestic matters and poverty relief, and questions asking how a floundering Social Security program should be revived. Operative issues concerned the operation of government and management of the economy. Operative questions asked for evaluations of economic regulation such as price controls, environmental policies, restrictions on imports and exports, national health policies, and whether the size and influence of the federal government ought to be reduced. Tax issues included questions on the advisability of cutting or increasing a variety of taxes and whether the federal tax system puts a fair burden on all citizens. Lastly, social and moral issues included prayer in schools, restrictions on abortion, antidiscrimination policies, and the Equal Rights Amendment.

While many academic surveys include special questions to tap respondent knowledge of issues, media polls generally include only a few demographic variables along with batteries of issue and attitude questions. The only reliable and routinely measured indicators of political knowledge to be found in the data considered here are educational attainment and annual family income. This limitation makes inappropriate the multivariate methods used by Bartels and by Delli Carpini and Keeter, and thus restricts this study to a less sophisticated analysis of information effects.

Income rather than education is used here as a proxy for information levels. The Knoke and the Himmelstein and McRae studies suggest that because income level is more strongly correlated with policy preferences than educational attainment, income should be a more reliable indicator of policy-relevant information resources. Furthermore, while people from different educational backgrounds may differ somewhat in their moral and social attitudes, income publics are expected to differ systematically in their public policy views. Income is more closely related than education level to a wide range of competing interests: Class-based issues have a long and divisive history in American politics. Finally, attitudes toward economic and fiscal policies relate more directly than do moral issues to the ideal relationship between public will and governmental behavior in a democratic society. Although income level has been shown to suffer from greater measurement error than educational attainment (Bradburn et al., 1989), these many considerations recommend the choice of income over education.

The presence of informed minorities in measures of collective opinion can be tested with three hypotheses:

**H1:** Lower income respondents should select “don’t know” or “no opinion” more frequently than those with higher incomes.

**H2:** Lower income respondents should answer more randomly than those with higher incomes.

**H3:** Lower and higher income respondents should have dissimilar preferences.

If H1, H2, and H3 obtain, and if the preferences of higher income respondents are more conservative than those of lower income respondents, we can expect that frequency marginals will overstate the magnitude of conservative opinion in the sample's population.
Numerical Overrepresentation of Higher Income Respondents in Opinion Pools

The first hypothesis states that respondents lacking necessary information are more apt to answer "don’t know" or "no opinion," leaving the better informed respondents to represent the public’s opinion. Table 1 shows variations between the highest and lowest annual family income groups in levels of representation in a variety of opinion pools. The first and second columns in Table 1 present the average proportion of respondents in the lowest and highest income groups who answered questions in each subject category. Foreign affairs questions tend to have the highest DK rates, while questions on fiscal matters and social or moral issues tend to have the lowest. The extent of the differences between groups can be seen in the

Table 1
Representation of Income Groups in Opinion Pools

<table>
<thead>
<tr>
<th></th>
<th>Average percent of lowest income group giving an opinion</th>
<th>Average percent of highest income group giving an opinion</th>
<th>Average ratio of percent in lowest to percent in highest income group answering &quot;don't know&quot;</th>
<th>Average over-representation of highest income group in opinion pool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign affairs</td>
<td>44 82</td>
<td>92</td>
<td>3.06</td>
<td>1.14</td>
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<tr>
<td>Fiscal categories</td>
<td></td>
<td></td>
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<tr>
<td>Budget</td>
<td>16 87</td>
<td>95</td>
<td>3.27</td>
<td>1.09</td>
</tr>
<tr>
<td>Defense</td>
<td>18 90</td>
<td>95</td>
<td>3.02</td>
<td>1.07</td>
</tr>
<tr>
<td>Domestic</td>
<td>20 89</td>
<td>95</td>
<td>2.67</td>
<td>1.07</td>
</tr>
<tr>
<td>Poverty</td>
<td>8 93</td>
<td>96</td>
<td>2.36</td>
<td>1.03</td>
</tr>
<tr>
<td>Social Security</td>
<td>16 89</td>
<td>96</td>
<td>4.19</td>
<td>1.09</td>
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<tr>
<td>Fiscal total</td>
<td>78 89</td>
<td>95</td>
<td>3.15</td>
<td>1.07</td>
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<tr>
<td>Operative categories</td>
<td></td>
<td></td>
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<tr>
<td>Federalism</td>
<td>6 85</td>
<td>92</td>
<td>2.08</td>
<td>1.09</td>
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<tr>
<td>Economic regulation</td>
<td>29 89</td>
<td>96</td>
<td>3.97</td>
<td>1.09</td>
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<tr>
<td>Environment</td>
<td>10 85</td>
<td>94</td>
<td>4.20</td>
<td>1.11</td>
</tr>
<tr>
<td>Import/export</td>
<td>6 83</td>
<td>95</td>
<td>3.81</td>
<td>1.15</td>
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<tr>
<td>Health policy</td>
<td>4 88</td>
<td>96</td>
<td>3.29</td>
<td>1.09</td>
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<tr>
<td>Operative total</td>
<td>55 87</td>
<td>95</td>
<td>3.74</td>
<td>1.10</td>
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<tr>
<td>Tax categories</td>
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<tr>
<td>Cuts</td>
<td>14 83</td>
<td>94</td>
<td>2.92</td>
<td>1.14</td>
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<tr>
<td>Increases</td>
<td>16 88</td>
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<td>3.05</td>
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<td>Fairness</td>
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<td>4.85</td>
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<tr>
<td>Tax total</td>
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<td>1.11</td>
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<td>Abortion</td>
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<td>93</td>
<td>1.57</td>
<td>1.04</td>
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<td>Prayer</td>
<td>5 94</td>
<td>96</td>
<td>2.36</td>
<td>1.03</td>
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<td>2.68</td>
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<td>Equal Rights Amendment</td>
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<td>93</td>
<td>2.25</td>
<td>1.10</td>
</tr>
<tr>
<td>Social total</td>
<td>36 89</td>
<td>93</td>
<td>1.85</td>
<td>1.05</td>
</tr>
<tr>
<td>All questions</td>
<td>247 87</td>
<td>94</td>
<td>3.08</td>
<td>1.09</td>
</tr>
</tbody>
</table>
ratios of low- to high-income DK rates. For example, a question administered in 1984 on whether the United States should reduce tensions or get tougher with Russia had 20.6 percent DK responses for the lowest income group and 3.6 percent for the highest. For this question the lowest group had 5.72 times the number of DK responses that the highest group had. The averages of these ratios across each category are reported in column 3.

As column 3 shows, questions about governmental operation and economic regulation tend to have the largest difference between DK levels and those about social and moral issues tend to have the smallest. The significance of these ratios depends on the relative number of people in each income group giving DK responses. If only 3 or 4 percent of the lowest income group and 1 percent of the highest give DK responses, then a low/high ratio of 3 or 4 is relatively unimportant because so few people are actually giving such responses. In general, for any question category, the greater the disparity between the first and second columns in Table 1, the greater is the significance of the ratio in column 3. Another way to interpret the significance of differences in DK levels is to divide the proportion of opinion givers in the highest income group by that in the lowest. In foreign affairs questions, for example, the average percentage of the lowest income group giving opinions was 82 percent, while that for the highest income group was 92 percent. Dividing the latter by the former produces a weight of 1.14: Because higher income groups had fewer DK responses, each high-income respondent had the same impact on collective opinion as 1.14 low-income respondents. The fourth column in Table 1 displays these ratios for each question category.

Lower income respondents are consistently underrepresented in all categories. In only 9 of 247 questions were lower income respondents overrepresented in an opinion pool, and 3 of these were on the subject of prayer in public schools. Thus higher income respondents were overrepresented in 97.5 percent of all opinion questions that asked how the government should act in budgetary decisions, foreign affairs, matters of taxation, regulation, and economic policy. The lowest average overrepresentation occurs in questions dealing with social and moral concerns; the highest occurs in foreign policy questions as well as those on tax cuts, environmental policy, and free-trade issues. With disproportionately more higher income respondents in all types of opinion pools, the views of lower income groups carry relatively less weight in shaping frequency marginals.

The data are unambiguous: On average, three times more respondents from a sample's lowest income group give DK responses than those from the highest income group. Because of this, opinion pools overrepresent the views of the highest income group by an average of 1.09 times the weight they would carry if DK rates were the same for both groups.3

**Amplification of Higher Income Preferences in Opinion Pools**

Fewer affluent respondents give DK responses, and this results in a general overrepresentation of high-income groups in opinion pools on all aspects of domestic and foreign policy. However, the inflated proportion of high-income respondents in opinion pools is only one aspect of the special influence exercised by informed minorities. Hypotheses H2 and H3 posit a second sort: Because they tend to share similar social and attitudinal characteristics, demographic groups with large proportions of highly informed constituents should exhibit a significantly narrower range
of views with a different mean than poorly informed groups. To test these hypotheses, each question in the data set was broken down using a one-way ANOVA package to determine whether there were significant differences between the preferences of high- and low-income groups. The ANOVA package isolated group means with 95 percent confidence intervals, and any difference with a two-tailed significance of \( p < .05 \) between the means of the highest and lowest income groups was noted. The standard deviations of the highest and lowest income groups were also compared for each question to see whether the highest group had a narrower range of opinion than the lowest. Most of the questions in the data set have binomial or trinomial distributions, so a substantial difference in standard deviations is a very small apparent difference. Standard deviations were therefore compared to the third decimal place: If there was no difference at two decimal places (rounding from the third), then no difference between groups was noted. The results of this analysis are displayed in Table 2.

The first column in Table 2 shows the percentage of questions for each category in which the highest income group has a narrower range of opinion than the lowest group. In 49 percent of the questions, the opinion distributions of the highest income group had smaller standard deviations than those of the lowest, as would be predicted by chance. However, the variations among the question categories are hardly random. Higher income respondents had more concentrated distributions of opinion on more than half of the economic policy questions, around two-thirds of the questions on defense spending, welfare outlays, domestic spending, and the advisability of different sorts of tax cuts, and three-quarters of those on the fairness of the tax system. They also had more consistent opinions in almost nine out of ten questions about abortion. While the extent of between-group differences depends on the type of question asked, it appears that higher income opinion tends to be more of one accord than lower income opinion on a wide variety of fiscal and tax issues, as well as on issues of federalism, economic regulation, abortion, and civil rights.

The second column in Table 2 shows the proportion of questions in each category that had a statistically significant divergence of opinion between the highest and lowest income groups. Overall, the groups had significantly different means in 38 percent of the questions. Not surprisingly, those categories in which group preferences tend to diverge are those in which rival income publics can be expected to have competing interests: 75 percent of questions on welfare spending and health policy, 55 percent of domestic spending questions, and half of questions on trade policy had significant differences between income groups. But other categories also saw substantial divergence between income groups: 73 percent of questions on abortion, 40 percent of those on prayer in public schools, and nearly a third of foreign affairs questions. While opinion differences on foreign affairs issues could be explained simply as differences in information levels, it would seem that for abortion and prayer, income level must be confounded with other characteristics (such as education level) that contribute to these differences. In general, questions on fiscal outlays and operative issues show the greatest average divergence between groups, while questions on tax matters and social and moral issues (controlling for the abortion questions) had the least.

Column 3 shows the proportions of questions in which the highest income group biased the representativeness of collective opinion because it had both a smaller variance and a significantly different mean opinion than the lowest income
Table 2
Influence of Informed Minorities in Opinion Pools

<table>
<thead>
<tr>
<th></th>
<th>Percent of questions where highest income group has smaller opinion range</th>
<th>Percent of questions with significantly divergent means between highest and lowest income groups</th>
<th>Percent of questions where highest income group exerts minority influence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign affairs</td>
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<tr>
<td>Fiscal categories</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Budget</td>
<td>17</td>
<td>25</td>
<td>44</td>
</tr>
<tr>
<td>Defense</td>
<td>18</td>
<td>67</td>
<td>17</td>
</tr>
<tr>
<td>Domestic</td>
<td>20</td>
<td>60</td>
<td>55</td>
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<tr>
<td>Poverty</td>
<td>8</td>
<td>63</td>
<td>75</td>
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<tr>
<td>Social Security</td>
<td>16</td>
<td>56</td>
<td>56</td>
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<tr>
<td>Fiscal total</td>
<td>78</td>
<td>52</td>
<td>45</td>
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<tr>
<td>Operative categories</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Federalism</td>
<td>6</td>
<td>67</td>
<td>33</td>
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<tr>
<td>Economic regulation</td>
<td>29</td>
<td>55</td>
<td>45</td>
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<td>Environment</td>
<td>10</td>
<td>40</td>
<td>30</td>
</tr>
<tr>
<td>Import/export</td>
<td>6</td>
<td>17</td>
<td>50</td>
</tr>
<tr>
<td>Health policy</td>
<td>4</td>
<td>0</td>
<td>75</td>
</tr>
<tr>
<td>Operative total</td>
<td>55</td>
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<td>44</td>
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<tr>
<td>Tax categories</td>
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<td></td>
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</tr>
<tr>
<td>Cuts</td>
<td>14</td>
<td>64</td>
<td>14</td>
</tr>
<tr>
<td>Increases</td>
<td>16</td>
<td>31</td>
<td>6</td>
</tr>
<tr>
<td>Fairness</td>
<td>4</td>
<td>75</td>
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<tr>
<td>Tax total</td>
<td>34</td>
<td>50</td>
<td>12</td>
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<tr>
<td>Social/moral issues</td>
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<tr>
<td>Abortion</td>
<td>15</td>
<td>87</td>
<td>73</td>
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<td>Prayer</td>
<td>5</td>
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<td>40</td>
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<tr>
<td>Civil rights</td>
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<td>Equal Rights Amendment</td>
<td>10</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td>Social total</td>
<td>36</td>
<td>61</td>
<td>39</td>
</tr>
<tr>
<td>(Without abortion)</td>
<td>23</td>
<td>43</td>
<td>14</td>
</tr>
<tr>
<td>All questions</td>
<td>247</td>
<td>49</td>
<td>38</td>
</tr>
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</table>

This biasing influence occurred in almost one-fifth of all opinion distributions. At least a third of all questions on welfare spending and the balance between state and federal power overamplified the opinions of the highest income groups, as did one-quarter of the questions on domestic spending, economic regulation, Social Security, and the fairness of the federal tax system. An astonishing two-thirds of questions on abortion were skewed by affluent respondents.

The extent of bias shown in Table 2 is further compounded by the overrepresentation of higher income respondents in opinion pools. Comparing the data in Table 2 with those in Table 1, it is clear that the polling questions most useful to politi-
ticians are also those most open to influence by a cohesive and overrepresented minority of affluent respondents. Especially vulnerable are questions on fiscal policy and those on operative issues such as economic regulation.

Each of the forty-four questions influenced by higher income opinion was examined to determine how the preferences of the two income groups differed. In 11 percent of these questions there was no response that could be categorized as more liberal or conservative than another. Of the remaining questions, the highest income group gave responses that were more liberal than the lowest income group in 38 percent of questions (N = 15) and more conservative in 62 percent (N = 24).4 Not surprisingly, the liberal preferences of the highest income group were almost all related to abortion: Affluent respondents were much more opposed to constitutional amendments banning abortion and much more pro-choice than lower income respondents. Controlling for the questions on abortion, affluent respondents as a group favored conservative positions in 86 percent of questions where they had a narrower range and different mean opinion than the lowest income group.

To measure the substantive impact of these differences on collective opinion, it is necessary not only to consider the views of all income groups but also to come up with a valid counterfactual measure of what collective opinion would look like if all groups had the same DK rate and variance of opinion. One method that lends itself to this task is the Borda count, a decision rule that ranks the preferences of voters across n alternative choices (Mueller, 1989). Under this rule, each voter gives the most preferred alternative a score of n, the next most preferred a score of n - 1, and so on until the least preferred alternative receives a score of 1. The sum of scores determines the rank-order preference of the collectivity, with the winner being that alternative receiving the highest score.

Because survey data capture only the first choice of respondents rather than complete preference orderings, the decision rule used here is an adaptation of the Borda count that considers each income group as a separate voter and weights group preference scores according to the proportion of respondents in each group. In essence, this method redistributes DK responses into the preference structure of each income bracket and considers only the rank order of preferences rather than the intensity with which a group prefers one alternative over another. This transformation thus nullifies the advantages of informed minorities and provides a useful comparative measure of collective preferences based on marginal frequencies. For example, in a question asking whether respondents preferred the federal government to deliver more or fewer services, a majority of the lowest income group favored more services, while majorities in the three other income groups favored fewer services.5 Each group's first choice was assigned a score of 2 and its second choice a score of 1. Group scores were then proportionally weighted and summed for each alternative. This weighted Borda count procedure chose the "fewer services" option as the collective preference, the same as the choice made by a majority in the question's marginal frequencies. For this question at least, the order of preferences revealed in the marginal frequencies was not substantively altered by the characteristics of high-income opinion.

Extending this analysis to the questions identified in Table 2 as being influenced by affluent opinion, the weighted Borda count produced a different collective preference ordering in only three of the forty-four questions. These few changes accorded with the predicted biases of informed opinion. One of the three questions was on the fairness of the federal income tax system. The plurality choice (made by
32 percent of respondents) was that the present income tax system was "reasonably fair" to people like themselves; under the weighted Borda count, the first choice would be "quite unfair." The other two questions dealt with a proposed amendment that would outlaw all abortions except to save the life of the mother. A majority (54 percent) opposed the amendment in both cases, but under the Borda method the amendment was collectively favored.

These findings suggest that the influence of informed minorities on measures of collective opinion must be generally on the order of a few percentage points. In rare cases—here, 3 questions out of 247—this influence is strong enough to change the substantive interpretation of public opinion measures. Most of the time when it occurs, this influence probably skews levels of support or opposition to a policy without drastically altering the social choice indicated by the marginal frequencies.

Summary and Implications

In theory, the results of opinion surveys more accurately reflect the distribution of preferences in a society than elections because surveys reduce the traditional costs of expressing an opinion: They bring the poll to the citizen rather than the other way around. In this way surveys are thought to avoid the tendency, noted by students of political participation, for economically and socially underprivileged citizens to self-select out of the active electorate (Verba & Nie, 1972; Wolfinger & Rosenstone, 1980; Conway, 1991). Although the egalitarian tendencies of opinion surveys have been touted since the method's earliest days (Gallup & Rae, 1940), this study found that opinion surveys can suffer from representation problems similar to those observed in elections.

Collective opinion concerning the new directions in national policy introduced during Reagan's first term was at times biased in economically conservative and socially liberal directions by the demographic characteristics of opinion givers. Because the policy interests of informed respondents were often markedly different from those of the rest of the public, because they were more likely to give opinions when asked, and because their opinions tended to load more tightly and consistently than those of other respondents, aggregated preferences on contested policies tended to lean toward the position favored by higher income groups.

While the data presented here show that informed minorities can influence opinion distributions, the substantive impact of this influence is still unclear. The degree of bias resulting from information effects, however small, almost certainly adds to other socioeconomic and ideological biases in the political process. It is well known that the interest group system gives a disproportionate voice to moneyed interests (Schattschneider, 1960). It is less well known that the unequal distribution of political resources also results in a more subtle bias favoring corporate and pro-business voices in television news stories (Danielian & Page, 1994). Members of higher socioeconomic status groups have more resources at their disposal to influence the political process (Brady et al., 1995). Because they have different personal experiences and priorities for government action than members of lower socioeconomic groups, this inequality distorts the content of communications from the public to political leaders (Verba et al., 1993). For instance, the demographics of politically active citizens—those who call talk radio shows, write letters to Congress, and contact the White House switchboard—produce a skewed version of the public's pulse that favors conservative positions on a wide range of issues (Times
Taken together, these various influences may significantly distort perceptions of the political climate in which politicians and interest groups operate.

There may be little that can be done to avoid the representation problems in media polls. Because the timing of media polls and journalists' need to use simple descriptive statistics are unlikely to change in the foreseeable future, the most promising remedy for these information effects may be to focus more questions on broad policy goals rather than on the means to achieve those goals. Yet aggregated responses to even these broad questions—the mainstays of academic surveys—suffer from information effects that bias collective opinion in predictable directions (Bartels, 1990; Delli Carpini & Keeter, forthcoming). While further study is obviously called for, such findings suggest that representation problems may be as germane to opinion surveys as they are to elections.

Public opinion polling elevates the clear wishes of the informed few over the muted, fragmented, and ill-communicated desires of the many. Many see this as a benefit. However, when informed opinion fails to represent the views of the less knowledgeable public, opinion polling may distort measures of the public will. So long as media polls are seen by elites and the public as unbiased measures of public opinion, they risk misreading the interests of the few as the will of the many.

Notes

1. The scales used in measuring annual family income changed slightly between 1980 and 1984. In 1980 and the first part of 1981, respondents were divided into four groups based on income; from 1981 onwards, they were divided into five income groups. From 1980 to 1983 the lowest group consisted of those with incomes of $10,000 or less; in 1984 the lowest group had incomes of $12,500 or less. The highest income group consisted of those whose annual family incomes exceeded $25,000 in 1980, $30,000 in the first part of 1981, $40,000 from the last part of 1981 until the end of 1983 and $50,000 in 1984. The number of respondents in each of the income groups varied from survey to survey, but averaged between 100 and 250 per group.

2. Individual questions vary from 0.99 to 1.83 in the factor by which the highest income group is under- or overrepresented.

3. The standard deviations seemed to average about .50, and in only 4 percent of questions was any group's score greater than 1.0.

4. Conservative responses were coded as follows: favoring increased spending on defense, decreased spending on domestic programs, decreased spending on welfare, a smaller federal government, less governmental regulation of business, an interventionist stance in world politics over an isolationist stance, a pro-life stance on abortion over a pro-choice stance; preferring increased unemployment over increased inflation, preferring tax cuts over having a balanced budget, preferring making contributions to the Social Security system voluntary rather than required, being against increasing the provision of legal aid for the poor, being against a nuclear freeze, favoring off-coast drilling for oil, approving of Reagan's budget plan, responding that the current (1980) tax system was "unfair to people like you," and approving of Reagan's tax cuts.

5. Respondents were excluded from this analysis if their income level was unknown.

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