

# Does Discussion Group Composition Affect Policy Preferences? Results from Three Randomized Experiments

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*We report the results of three randomized experiments designed to assess whether participants' political attitudes are affected by the prediscussion opinions of their discussion mates. The experiments took place during three multisite Deliberative Polls in 2004 and 2005. Participants discussed current political issues within 330 groups of approximately 10 people each. Because the composition of the groups was determined randomly within each location, the demographic and ideological complexion of the discussion groups varied randomly. This paper examines the effects of randomly varying group composition on political opinions expressed after daylong discussion. We find only sporadic evidence of group composition effects. These results run counter to—or at least qualify—a substantial body of theory and laboratory evidence on the influence of group discussion.*

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Social psychological inquiry into the effects of group deliberation is periodically invigorated by dark assessments of group dynamics. In the wake of Asch's (1948) classic demonstration that pressures to conform distorted subjects' factual reports, scores of articles have examined the nature and consequences of group discussion (see reviews in Isenberg, 1986; Lamm & Myers, 1978; Myers, 1978, 1982). Much if not all of this work lies outside political science, and, unfortunately, political scientists have tended to show little interest in it.<sup>1</sup> Within the last five years, however, the behavioral science of group dynamics has been brought to the fore as political scientists have turned their attention to public deliberation.

As researchers examine the way in which the public grapples with policy questions in the context of intensive group discussions, the dark side of group dynamics has again attracted attention. Schkade, Sunstein, and Kahneman (2000) found that deliberation tends to impel juries to increase the sums of money that they award in damages. Mendelberg (2006) contends that the jurors studied by Schkade et al. were influenced by their discussion mates. Reanalyzing the Schkade et al. data, she finds that jurors were more likely to favor large awards when placed into groups that contained a large proportion of people whose demographic characteristics and pre-deliberation preferences made them prone to award large amounts. Mendelberg concludes that "Group composition variables shape the outcome just as powerfully as do individual variables, if not more so" (p. 12). This finding implies that in deliberative settings, individuals with minority views or profiles operate at a double disadvantage. Not only are their views unlikely to prevail in majority decisions, but minorities will also be pushed into altering their stances by pressures to conform to norms set by majorities.

The central empirical proposition underlying this argument is the idea that the views one expresses after group deliberation are influenced by the preexisting views of one's discussion mates. Put a person into a room with a lopsided majority of conservatives to discuss an ideologically charged issue, and her postdiscussion opinions will be more conservative than would be the case with a differently constituted group. Notice that this phenomenon could occur for two very different reasons: (1) a desire to win social acceptance from the members of the group (Goethals & Zanna, 1979; Myers, 1978; Myers, Bruggink, Kersting, & Schlosser, 1980) or (2) exposure to the persuasive information or arguments that they convey (Baron & Roper, 1976; Luskin, Fishkin, & Jowell, 2002; Myers & Bach, 1974; Vinokur & Burnstein, 1978). In the latter case, group discussion persuades the individual to adopt a new position on an issue; in the former case, expressed issue stances are likely to reflect momentary acquiescence to group pressure rather than long-lasting opinion change. Regardless of which mechanism is at work, the

1 Political scientists have long been interested in testing game theoretic propositions about legislative behavior (for a summary of this literature, see Green & Shapiro, 1994, chap. 6). This line of research, however, differs from the psychological literature on group dynamics in two important respects. First, the experimental literature on committees focuses on voting outcomes rather than persuasion. Second, the issues that experimental subjects confront are abstract and involve monetary payoffs.

central claim is that the composition of the discussion group changes the views expressed by those who participate in it.

This essay tests group effects using three large-scale field experiments in which the ideological complexion of one's day-long discussion group was the result of random assignment. We begin by describing our experimental design and comparing it to previous social psychological studies of group discussion. In order to situate our study within the extensive literature on group effects, the first section distinguishes between *active* and *passive* persuasion designs: active designs disseminate a specific message to one experimental group but not another; passive designs, such as the one used here, treat the group members' existing attributes or attitudes as the stimulus. Next, we describe the first two multisite Deliberative Polls within which our experiments were carried out and the survey measures used to gauge opinion change. We then present the experimental results, which show sporadic but weak evidence of change in the wake of group discussion. To test the robustness of these results, we present the findings of a third experiment in which certain structural elements are randomly varied, such as the size of the discussion groups, the role played by the moderator, and the public revelation of preferences through a straw poll. None of these experimental variations alters the basic finding that group influence tends to be weak. We conclude by discussing the implications of our findings for future research on the effects of group context.

### *Active versus Passive Experimental Designs*

The extensive literature on the effects of group discussion may be usefully divided into two categories. Many studies use what we shall term an *active* design: they compare the posttreatment opinions of those who participate in a particular type of discussion with those who discuss a placebo topic or do not participate in a discussion. In this design, the experimenter actively insinuates a specific message into group discussion and examines its effects. This type of design can be implemented by confederates articulating a particular position (as in the Asch experiment) or by directing subjects to consider particular arguments (Myers & Bishop, 1970).

By contrast, studies conducted by political scientists (Luskin et al., 2002; Mendelberg, 2006) use a *passive* design: rather than manipulate the content of the discussion, the experiment randomly varies the demographic attributes or ideological predispositions of the discussion groups.<sup>2</sup> By randomly assigning

<sup>2</sup> Because passive designs rely on randomly generated variation in group composition as the experimental stimulus, the number of subjects in the experiment bears a somewhat counterintuitive relationship to the experiment's statistical power. Ironically, the larger the discussion groups, the smaller the expected range of variation in group composition. Thus, the power of the design depends not so much on the size of each discussion group as on the number of discussion groups.

discussion partners, the passive design exposes some people to discussion groups in which a distinctive ideological or demographic profile predominates. Several social psychological experiments use a variant of the passive design in which discussants are assigned to groups in ways that create specific configurations of group opinion. Myers and Bishop (1970), for example, measure subjects' level of prejudice and randomly assign them to discuss a prejudice-related issue or a placebo issue with other likeminded subjects. Similarly, Druckman (2004) and Druckman and Nelson (2003) randomly assign subjects to groups but vary the kinds of materials to which they are exposed.

The two designs answer somewhat different research questions. The active design assesses whether information and arguments diffused in a specific way in a group setting influence individuals' knowledge and preferences. The answer appears to be yes (e.g. Druckman, 2004; Druckman & Nelson, 2003), although the evidence is equivocal as to the magnitude of these effects. In a series of experiments, Vinokur and Burnstein (1978) demonstrated that individuals are persuaded by new information when it is the majority group position and particularly when it is presented via well-constructed arguments from credible sources. Asch-like mock jury designs in which a juror is asked to pass judgment after other jurors have expressed their opinions show that people are susceptible to group influence, although these effects are not large (Davis, Kameda, Parks, Stasson, & Zimmerman, 1989; Goethals & Zanna, 1979). The passive design, on the other hand, examines whether individuals typically move each others' opinions as the result of discussion. Instead of furnishing arguments or staging support for a particular viewpoint, the experimenter simply lets exponents of certain positions make arguments on their own behalf.<sup>3</sup> This design does not test the effects of any specific argument or source but instead examines the extent to which individuals gravitate toward the majority opinion held within their discussion groups.

The two recent studies that use a passive experimental design present intriguing evidence of discussion-group effects. As noted above, Mendelberg (2006) found that an individual's preferred damage award was influenced by her fellow jurors' demographic attributes (age, race, income, education, and gender). Luskin et al. (2002) find that postdeliberation opinions about crime were affected by discussion mates' predeliberation opinions. Luskin et al. characterize these effects as "modest" (pp. 141, 143), although significant discussion effects surface in half of the analyses they conduct. The present study represents a much larger replication of the Luskin et al. study, with many more discussion groups, topics, and experimental variations.

3 The background briefing materials that were sent to Deliberative Poll participants did structure the discussion topics and arguments, and in that sense our experiment does have something in common with past studies using an active design.

### Model

In order to estimate the effects of discussion, we use a regression<sup>4</sup> model in which each individual's postdeliberation opinions represent a function of three kinds of independent variables: (1) the individual's predeliberation opinions, (2) the mean of the predeliberation opinions of the other discussants in the group, and (3) dummy variables marking the sites within which random assignment took place. The model is:

$$y_{i,t} = b_0 + b_1 y_{i,t} + b_2 \frac{1}{n_k - 1} \sum_{i,i \neq j}^{nk} y_{j,t-1} + \gamma_s D_s + u_{i,t}$$

where  $y_{i,t}$  represents the postdiscussion opinion of individual  $i$ ,  $y_{i,t-1}$  represents each individual's prediscussion opinion, and  $y_{j,t-1}$  represents the prediscussion opinion of individual  $i$ 's discussion mate  $j$  within discussion group  $k$ . The  $D_s$  denote dummy variables for each of the sites (less one). These dummy variables are included to account for the fact that random assignment occurred within sites but not across them. Unobserved causes of postdeliberation opinion are denoted  $u_{i,t}$ . The key parameter in this model is  $b_2$ , which represents the effect of the average group member's opinion. The null hypothesis is that  $b_2 = 0$ , or the group's location has no effect on the individual. The alternative is that  $b_2 > 0$ , which implies that the more conservative the group's predeliberation opinions, the more conservative the individual's postdeliberation opinion. Because the average opinions of one's discussion mates are randomly assigned,<sup>5</sup> our experiment provides a consistent estimate of  $b_2$ , regardless of whether we include background attributes such as age or education in the model. However, we must include  $y_{i,t-1}$  as a covariate because the assignment of group means is random conditional on one's  $y_{i,t-1}$  score.<sup>6</sup> This covariate also is a strong predictor of  $y_{i,t}$ , thereby improving the precision with which  $b_2$  is estimated. The standard errors of all of the models presented below are

4 Because the dependent variables discussed below are survey items that present respondents with a series of ordered categories, we use ordered probit rather than linear regression to generate the results presented in the tables. A linear regression model is used here for clarity because the main focus of our discussion is the operationalization of group effects.

5 We confirmed that the group averages to which individuals were randomly assigned bore no systematic relationship to their opinions on other issues or their demographic attributes. For each survey in each site, we regressed each measure of average group opinion for each survey item on age, sex, race, and education as well as the predeliberation opinions on other survey questions, controlling for predeliberation opinion on that discussion topic and site dummies. For the 2005 polls, where demographics are unavailable, these regressions focus on predeliberation opinion on other questions. As expected, an F-test fails to reject the null hypothesis that predeliberation variables have no effect on the assigned group averages. The F-test is nonsignificant in 33 of 34 regressions ( $p > .05$ ).

6 A person whose predeliberation score is conservative, for example, moves the group mean in a conservative direction for others but does not affect the group mean in his own group. Thus, there is a slight negative relationship between one's own predeliberation score and the group mean. Conditional on this prescore, however, the assignment of group means to individuals is random, which is why our regressions must include a control for the prescore.

estimated using the robust-cluster option available in STATA 10, with discussion group as the cluster.

It should be noted that “the group’s location” can be measured in various ways other than a simple average. In the course of preparing this analysis we examined a number of alternatives, such as the median or the proportion of discussion mates who place themselves on the same “side” of an opinion scale as the respondent. We have also looked at operationalizations of group location that count the number or proportion of people who took an extreme position on one side of an issue during the prediscussion interview, on the grounds that these people were especially likely to defend their point of view during the course of deliberation. In another set of alternative models, we used demographic controls and considered interactions between demographics and the ideological composition of the group in order to see whether minorities or those with lower levels of education were particularly susceptible to group influence. (Supplementary tables with these null results are presented in an online appendix.) It turns out that all of these variants produce similar substantive conclusions about the magnitude and statistical significance of  $b_2$ .<sup>7</sup> In order to more accurately gauge the location of the group mean, we used multiple imputation (King et al., 2001) to predict the locations of people who did not furnish an answer to the predeliberation survey question measured by  $y_{it}$ . The results, however, do not change when respondents who did not furnish answers to a predeliberation survey item were assumed to be located at the group average.

## Data

The first of three experiments was conducted on January 24, 2004 as part of a Deliberative Poll<sup>8</sup> sponsored by MacNeil/Lehrer Productions’ By the People project and a variety of local partners. The research design was developed by Yale’s Institution for Social and Policy Studies (ISPS) and the Stanford Center for Deliberative Democracy (CDD). The Poll assembled over 700 individuals in 10 different communities around the country. The participants were recruited from a random sample by the UC Berkeley Survey Research Center. They answered a short telephone presurvey and were offered a \$75 stipend to attend a local deliberation. Those who agreed to participate were sent a background briefing document prepared by By the People. This document provided factual information and a balanced account of various perspectives on the two issues being discussed.

<sup>7</sup> Another variant on this approach is to model the group’s demographic attributes rather than its prediscussion opinion. Following Mendelberg (2006), we include a series of variables measuring mean levels of age (years), education (rating scale of educational attainment), gender (percent male), and race (percent white). In order to assess the robustness of our results, we estimated the regression model first including all of these group measures in a single equation and second including just one of these demographic attributes, with similar results. The statistical results do not support the hypothesis that demographic composition of discussion groups affects individuals’ policy stances.

<sup>8</sup> Deliberative Polling® is a registered trademark of James S. Fishkin.

Approximately 150 individuals were recruited at each site, about half of whom actually attended.

The short presurvey administered to all respondents prior to the day's discussion included demographic questions and party affiliation, as well as questions related to the two foreign policy issues under discussion: national security, with a focus on Iraq, and economics, with a focus on free trade. Invitation to participate in the Poll in no way depended on the content of a respondent's answers to these questions. The much longer survey administered to all participants at the end of the day's deliberation included the presurvey questions on the issues. The analysis of group effects pursued here focuses on the seven questions posed in both the invitation-time survey and the postdeliberation survey.

A week before the event, those who agreed to participate were assigned to 10 discussion groups at each site. Because not everyone who agreed to come actually attended, the groups varied in size, but randomly; very small groups were consolidated, so the total number of groups was fewer than 10 at every site.<sup>9</sup> The consolidation of groups does not pose a threat to the randomization.<sup>10</sup> Participants were not permitted to choose or switch groups, and people who showed up to the site without having been recruited through official channels were not allowed to participate. This procedure ensured that, within each site, every individual participant was randomly assigned a set of discussion mates.

The same two foreign policy issues were discussed at all sites. The moderators were randomly assigned to discussion groups and were given the same instructions. The elements of the day's schedule included:

- *Introductory session:* A short video on each of the topics was shown.
- *Morning discussion:* A moderated small-group discussion on one of the two topics. Half of the sites discussed national security in the morning, and the other half discussed economic issues in the morning. At the end of the discussion of the issue, groups identified questions to be posed to a panel of experts. They also completed a midpoint survey on both issues.<sup>11</sup>

<sup>9</sup> A few groups have been excluded from consideration here because, as planned, a local broadcast partner created a discussion group in each site composed of people who were profiled in advance. These groups are excluded from analysis because they were not subject to random assignment.

<sup>10</sup> To see why this is so, consider the abstract case in which  $N$  high-education recruits show up with a probability of one-half, while  $N$  low-education recruits show up with a probability of one-fourth. Two thirds of all discussion groups with six attendees will be composed of high-education recruits, and the same will be true of discussion groups that end up with just three attendees. So if two three-person groups are combined to form a single discussion group, the resulting discussion group will also have two-thirds high-education recruits. Because the procedure for combining groups is independent of subjects' attributes, combining small groups does not undermine the random assignment. As noted in footnote 5, conditional on the site and the pre-deliberation response that contributes to the discussion group average, there is no correlation between an individual's pre-discussion attributes and the composition of the discussion group to which he or she was assigned.

<sup>11</sup> One site (Nebraska) followed this basic format, but did not administer a midpoint survey.

- *Afternoon discussion:* A moderated small-group discussion on the topic (foreign or domestic policy) not covered in the morning. The afternoon discussion followed the same format as the morning discussion.
- *Expert panel:* An opportunity for groups to pose their questions to a balanced panel of “experts” and advocates representing a variety of different perspectives on the issues.
- *Postsurvey:* A brief postpanel discussion and completion of a postsurvey covering both topics, and including the same questions as asked on the presurvey and midsurvey as well as a number of other questions. These surveys were identical across sites (except that a few sites added local questions, which are excluded from this analysis).

The second and third experiments are replications of the initial January 2004 experiment with the addition of some experimental variations. Both were hosted and designed by the same national and for the most part the same local partners. The second experiment was conducted on October 16, 2004, and featured a larger number of sites and participants, and modification of the topics and survey questions (and some localization on the economic issue). The third replication experiment, conducted in October 2005, varied several aspects of the Deliberative Poll format and will be discussed separately in the experimental variations section.

During the weeks leading up to the October 2004 Poll, a fresh set of participants was recruited from a random sample of the adult population in each site.<sup>12</sup> The issues under discussion in October 2004 were, again, national security, with a focus on the war on terror, and economics, with a focus this time on American jobs in the global economy. Sites were given the opportunity to localize the economic discussion and to prepare locally focused background materials and survey questions to supplement the national ones.

Table 1 presents an overview of the sample sizes in each Poll. The 10 sites in January hosted a total of 85 groups. The 17 sites in October 2004 hosted a total of 152 groups. The 12 sites in October 2005 hosted 60 groups on the education topic and 53 groups on the healthcare topic. The sheer number of groups ensures that their ideological complexion varies considerably within each site. Our inspection of group locations for each site and issue confirmed that average presurvey opinions varied substantially across groups for each of the issues. Figure 1 illustrates the variation of presurvey opinions on a sample question, which asked whether the United States should invade a threatening country even in the absence of support from allies. For each site, the graph shows the distribution of average opinion across discussion groups. Reassuringly, we find considerable within-site variation in group composition.

<sup>12</sup> Fifteen by the Guild Group Incorporated, and one each, in their own regions, by Louisiana State University’s Public Policy Research Lab and University of Nebraska-Lincoln’s Bureau of Sociological Research.

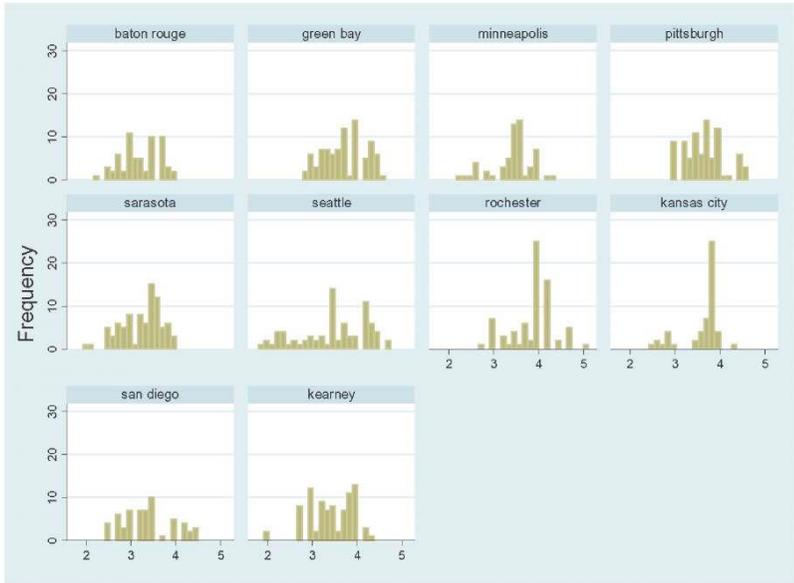
**Table 1. Attendance Figures By Site**

January 2004					October 2004					October 2005				
City	Number of Groups <sup>a,b</sup>	Mean SD	Min Max	Total Subjects <sup>b</sup>	City	Number of Groups <sup>a,b</sup>	Mean SD	Min Max	Total Subjects <sup>b</sup>	City	Number of Groups <sup>a,b</sup>	Mean SD	Min Max	Total Subjects <sup>b</sup>
Baton Rouge	7	8.86	5	62	Albuquerque	9	11.00	8	99	New Haven	22	6.89	4	145
		2.19	12				1.67	14				1.44	10	
Green Bay	10	8.60	7	86	Baton Rouge	7	7.86	6	55	Kearney	12	10.92	8	131
		1.00	10				1.27	10				2.62	17	
Kansas City	5	10.40	9	52	Boise	9	13.11	9	118	Albuquerque	10	7.60	6	76
		1.57	13				2.27	17				1.49	11	
Kearney	10	8.50	6	85	Charlottesville	10	13.30	12	133	Rochester	6	8.33	6	50
		1.14	10				0.91	15				1.85	11	
Minneapolis	6	9.67	7	58	Cleveland	10	10.90	8	109	Saint Louis	10	10.30	8	103
		1.64	12				2.31	15				2.58	16	
Pittsburgh	10	8.20	6	82	Detroit	9	8.56	5	77	Bowling Green	12	4.42	2	53
		2.20	13				2.98	14				2.55	10	
Rochester	9	8.22	6	74	Houston	8	8.25	6	66	Muncie	5	8.00	4	40
		1.97	11				1.60	11				3.77	14	
San Diego	9	6.56	5	59	Kansas City	10	10.70	8	107	Kansas City	7	8.86	7	62
		1.37	9				1.89	14				2.16	13	
Sarasota	9	9.44	7	85	Lexington	8	8.63	6	69	Los Angeles	11	5.82	4	64
		1.82	12				2.01	12				1.60	8	
Seattle	10	7.80	6	78	Lincoln	9	11.56	9	104	Pittsburgh	10	5.40	3	54
		1.33	10				1.85	15				1.78	9	
					Miami	8	7.75	4	62	Charlottesville	4	9.00	7	36
							2.93	12				1.99	12	
					New Haven	9	11.00	9	99	Seattle	4	8.50	8	34
							1.88	15				0.51	9	
					Pittsburgh	9	11.33	6	102					
							2.34	15						
					Rochester	10	10.90	6	109					
							2.16	15						
					Saint Louis	10	9.20	7	92					
							1.94	13						
					San Diego	9	8.00	6	72					
							1.92	12						
					Seattle	8	10.75	6	86					
							2.24	13						
<b>Total</b>	<b>85</b>			<b>721</b>	<b>Total</b>	<b>152</b>			<b>1,559</b>	<b>Total</b>	<b>113</b>			<b>848</b>

Note

<sup>a</sup>Each site began with ten groups, but in some cases, small groups were merged before deliberation began.

<sup>b</sup>Groups that were filmed and had random assignment corrupted for media purposes were removed from the analysis and are not reflected in this table. Their presence or absence from the data does not affect the results.



**Figure 1.** Distribution of Discussion Group Means, by Site, for an Illustrative Survey Question Concerning NAFTA.<sup>a, b</sup>

Notes

<sup>a</sup>Question wording: What kind of impact would you say that NAFTA has had so far on the American economy?

<sup>b</sup>Answer choices are: 1-helped a lot, 2-helped somewhat, 3-has not had much effect, 4-hurt somewhat, 5-hurt a lot.

Table 2 provides a demographic description of the January and October 2004 samples. By comparison to the typical group-deliberation laboratory experiment, which involves undergraduate subjects, the experiments reported here use a subject pool that more closely resembles the general population. On some demographic dimensions, such as age and gender, the Polls look similar to the 2004 American National Election Study (NES). The Polls contain a somewhat larger proportion of non-Hispanic whites, reflecting the demographic profile of the deliberation sites. The sharpest contrast between the Deliberative Poll samples and the NES sample is that the former has a much higher proportion of college graduates. This may give the results special relevance to segments of society that have higher-than-average rates of college education.

### *Survey Measures*

Table 3 presents the question wording, response options, and descriptive statistics for the six January questions that appeared on both the pre- and

**Table 2.** Demographic Profile of Deliberative Poll Participants

January 2004					October 2004				
City	Mean age	Women	College Graduates	Non-Hispanic White <sup>a</sup>	City	Mean age	Women	College Graduates	Non-Hispanic White <sup>a</sup>
Baton Rouge	51.35	54.84	54.84	79.03	Albuquerque	55.80	57.00	70.00	73.00
Green Bay	52.32	50.00	46.51	91.86	Baton Rouge	46.40	59.30	49.15	59.30
Kansas City	49.23	59.62	65.38	84.62	Boise	50.80	45.30	47.00	83.80
Kearney	47.54	51.76	41.18	97.65	Charlottesville	51.00	56.90	75.38	86.90
Minneapolis	50.68	56.90	70.69	94.83	Cleveland	49.80	56.00	58.00	85.00
Pittsburgh	51.01	42.68	59.76	78.05	Detroit	49.00	51.50	51.47	72.00
Rochester	49.19	54.05	60.81	79.73	Houston	51.10	60.70	76.50	58.80
San Diego	50.47	50.85	62.71	88.14	Kansas City	52.50	59.60	67.62	83.80
Sarasota	60.35	49.41	62.35	92.94	Lexington	50.60	49.30	54.54	87.00
Seattle	47.62	55.13	62.82	83.33	Lincoln	49.20	57.70	51.90	94.20
					Miami	55.00	52.50	66.70	65.00
					New Haven	53.80	44.90	71.00	79.40
					Pittsburgh	52.60	66.10	64.00	82.90
					Rochester	52.10	52.30	69.70	83.50
					Saint Louis	53.40	51.20	58.60	80.50
					San Diego	54.70	57.10	69.00	70.70
					Seattle	49.90	46.70	65.20	75.00
Sample Average	50.98	52.52	58.71	87.02	Sample Average	52.50	53.89	62.79	79.40
NES 2004 <sup>b</sup>	47.27	53.50	29.87	72.28	NES 2004 <sup>b</sup>	47.27	53.50	29.87	72.28

Notes

<sup>a</sup>Answer choices were: Hispanic, African-American, Asian, Non-Hispanic White, and Other. Those who answered “refused” were treated as missing data.

<sup>b</sup>From the 2004 National Election Survey. Answers for NES are self-reported except for gender, which was reported by the interviewer.

**Table 3.** January 2004 Deliberative Poll  
Descriptive Statistics

Question Wording		Observations <sup>a,b</sup>	Mean <sup>b</sup>	Standard Deviation <sup>b</sup>
By the time we leave Iraq, the results will have been worth the cost in lives and dollars. <sup>c, e</sup>	Pre-deliberation	701	3.11	1.64
	Post-deliberation	713	3.23	1.50
The US should share its control of Iraq with other countries or the UN in return for their sharing more of the military and financial burden. <sup>c</sup>	Pre-deliberation	699	1.82	1.25
	Post-deliberation	708	1.79	1.13
In general, the US should be willing to invade other countries we believe pose a serious and immediate threat, even if we don't have a lot of international support. <sup>c</sup>	Pre-deliberation	701	3.46	1.56
	Post-deliberation	706	3.43	1.52
The war in Iraq has got in the way of the war on terror. <sup>c, e</sup>	Pre-deliberation	699	2.95	1.62
	Post-deliberation	708	2.77	1.52
What kind of impact would you say NAFTA has had so far on the American economy? <sup>d, e</sup>	Pre-deliberation	538	3.50	1.16
	Post-deliberation	657	3.07	1.14
On the whole, free trade means more jobs, because we can sell more goods abroad. <sup>c, e</sup>	Pre-deliberation	674	2.80	1.43
	Post-deliberation	707	3.06	1.25

Notes:

<sup>a</sup>Number of individuals engaging in discussion across all cities.

<sup>b</sup>Excludes those who answered "haven't thought much about that" or did not answer.

<sup>c</sup>Answer choices are: 1-agree strongly, 2-agree somewhat, 3-neither agree nor disagree, 4-disagree somewhat, 5-disagree strongly.

<sup>d</sup>Answer choices are: 1-helped a lot, 2-helped somewhat, 3-has not had much effect, 4-hurt somewhat, 5-hurt a lot.

<sup>e</sup>In difference in means t-test using individual as the unit of analysis, change is significantly different from 0 at the  $\alpha = 0.05$  level  $H_0$ : mean (post-discussion mean—pre-discussion mean) = mean(difference) = 0;  $H_a$ : mean(difference)  $\neq$  0.

postsurveys. Table 4 presents corresponding information for the eight questions asked in October 2004 pre- and postsurveys. On the key question of whether the war in Iraq will prove to be worth the cost, the average response nudged (insignificantly) from 3.1 to 3.2 on a 5-point scale ranging from agree strongly (1) to disagree strongly (5). The January issues that showed the greatest change concerned the evaluation of the North American Free Trade Agreement (NAFTA), which became somewhat more favorable, and the question of whether free trade means more jobs, which moved in a *less* sanguine direction. Little or no aggregate movement is evident in the October 2004 Poll. Mean opinions changed trivially and in no consistent ideological direction.

**Table 4.** October 2004 Deliberative Poll  
Descriptive Statistics

Question Wording		Observations <sup>a,b</sup>	Mean <sup>b</sup>	Standard Deviation <sup>b</sup>
We must not hesitate to invade other countries when we think they pose a serious threat, even when we are not completely sure. <sup>c,d</sup>	Pre-deliberation	1,443	3.71	1.43
	Post-deliberation	1,493	3.81	1.39
We must not hesitate to invade other countries when we think they pose a serious threat, even if we do not have ally support. <sup>c</sup>	Pre-deliberation	1,449	3.30	1.62
	Post-deliberation	1,493	3.26	1.51
The U.S. should be willing to intervene in the affairs of other countries to make them more democratic. <sup>c</sup>	Pre-deliberation	1,460	3.86	1.26
	Post-deliberation	1,494	3.84	1.20
By the time we leave Iraq, the results will have been worth the cost in lives and dollars. <sup>c,d</sup>	Pre-deliberation	1,403	3.65	1.59
	Post-deliberation	1,484	3.75	1.47
The war in Iraq has gotten in the way of the war on terror. <sup>c,d</sup>	Pre-deliberation	1,449	2.56	1.66
	Post-deliberation	1,494	2.37	1.53
Protecting existing American jobs and industries is more important than lowering prices and creating new jobs through free trade. <sup>c,d</sup>	Pre-deliberation	1,403	2.56	1.39
	Post-deliberation	1,485	2.75	1.28
American companies should be penalized for moving jobs to other countries. <sup>c</sup>	Pre-deliberation	1,471	2.45	1.49
	Post-deliberation	1,497	2.48	1.32
The Bush administration tax cuts should be made permanent. <sup>c,d</sup>	Pre-deliberation	1,422	3.52	1.66
	Post-deliberation	1,480	3.57	1.59

Notes:

<sup>a</sup>Number of individuals engaging in discussion across all cities.

<sup>b</sup>Excludes those who answered “haven’t thought much about that” or did not answer.

<sup>c</sup>Answer choices are: 1-agree strongly, 2-agree somewhat, 3-neither agree nor disagree, 4-disagree somewhat, 5-disagree strongly.

<sup>d</sup>In difference in means t-test using individual as the unit of analysis, change is significantly different from 0 at the  $\alpha = 0.05$  level  $H_0$ : mean (post-discussion mean—pre-discussion mean) = mean(difference) = 0;  $H_a$ : mean(difference)  $\neq$  0.

From the standpoint of discussion effects, the one pattern in Tables 3 and 4 that warrants comment is the tendency for variation in opinion to narrow in the wake of deliberation. Although participants were not encouraged to come to consensus on the issues they discussed and did not vote publicly on resolutions, the standard deviation declines for all of the items asked in the January and October 2004 polls, and among seven of 11 education questions and among eight of nine healthcare questions in October 2005 (see Appendix Tables 1 and 2). Thus, while the means remained stable over time, the spread of opinion around the means

declined slightly. Whether this pattern reflects the work of group influence or some other phenomenon (e.g., increased familiarity with the survey questions) is addressed more directly by means of the regression analysis presented in the next section.

### Experimental Results

Tables 5 and 6 present a series of ordered probit regressions in which the main predictor of interest is the prediscussion average group opinion on each issue, denoted as  $\beta_2$  in the model and in the tables. Table 5 presents results for the survey items that involve economic issues such as NAFTA, free trade, and tax cuts. Table 6 presents the corresponding ordered probit regressions for foreign affairs issues, which directly or indirectly pertain to the invasion of Iraq. Appendix Tables 3 and 4 present results from the October 2005 poll. Table A3 involves survey items related to education policy and spending. Table A4 presents the results on survey questions about government involvement in healthcare policy. In each of the tables, the variable called "Group Average" represents the average score of the discussion group (not counting the respondent) prior to deliberation. The effect of this variable is expected to be positive: people assigned to groups that scored higher in the presurvey should, *ceteris paribus*, emerge with higher post-deliberation scores.

Looking first at the effects of Group Average reported in Table 5, we find positive coefficients in four of five regressions on economic issues. Only one regression generates a significantly positive coefficient; in this case it appears that

**Table 5.** Effects of Group Composition on Post-treatment Policy Views Concerning Economic Issues

	January 2004		October 2004		
	NAFTA Impact?	Free trade means more jobs?	Protect US Jobs?	Penalize overseas US companies?	Permanent Bush tax cuts?
Pre-Deliberation Score ( $b_1$ )	0.38	0.30	0.33	0.55	0.67
	0.05	0.03	0.03	0.03	0.02
Group Average <sup>a</sup> ( $b_2$ )	-0.10	0.11	0.09	0.15	0.01
	0.09	0.09	0.06	0.07	0.07
Observations <sup>b</sup>	657	707	1,485	1,497	1,480
Number of Discussion Groups	85	85	160	160	160
Log Likelihood	-830.30	-984.86	-2,111.75	-1,876.17	-1,547.77

#### Notes

<sup>a</sup>Results control for the city in which the poll takes place. Group averages are calculated after pre-deliberation scores for those who did not answer or answered "haven't thought much about that" are imputed using the Amelia 2 software described in King (2001).

<sup>b</sup>Number of individuals engaging in discussion across all cities.

**Table 6.** Effects of Group Composition on Post-treatment Policy Views Concerning Security Issues

	January 2004					October 2004			
	Iraq worth cost?	Share Control?	Invade without support?	Iraq in way of war on terror?	Invade if not sure?	Invade without allies?	US intervene to make democratic?	Iraq worth cost?	Iraq in the way of war on terror?
Pre-Deliberation Score ( $b_1$ )	0.49	0.38	0.56	0.48	0.53	0.45	0.39	0.56	0.53
	0.03	0.04	0.03	0.03	0.03	0.02	0.02	0.03	0.02
Group Average <sup>a</sup> ( $b_2$ )	0.21	-0.02	0.26	0.11	-0.02	-0.02	-0.11	-0.01	0.00
	0.08	0.09	0.09	0.08	0.07	0.06	0.07	0.07	0.05
Observations <sup>b</sup>	713	708	706	708	1,493	1,493	1,494	1,484	1,494
Number of Discussion Groups	85	85	85	85	160	160	160	160	160
Log Likelihood	-939.92	-761.28	-834.54	-929.19	-1,687.47	-1,924.64	-1,873.13	-1,638.08	-1,714.00

## Note

<sup>a</sup>Results control for the city in which the poll takes place. Group averages are calculated after pre-deliberation scores for those who did not answer or answered "haven't thought much about that" are imputed using the Amelia 2 software described in King (2001).

<sup>b</sup>Number of individuals engaging in discussion across all cities.

the discussion groups' predeliberation opinion did affect the way participants in the October Poll thought about the issue of punishing American companies that export jobs. On the other hand, we see little evidence of group effects on the other October question dealing with protectionism and none at all concerning the issue of the Bush tax cuts. Thus, it does not appear to be the case that October participants exerted an unusually strong group influence over one another, and we see no effects in January in this issue domain. Overall, opinions about economic issues seem weakly responsive to the opinions of discussion mates.

Table 6 shows slightly more evidence of group effects, although statistical support remains sporadic. In January, we find statistically significant positive effects in two of the four foreign policy items. Interestingly, the two items for which we see significant group effects were the two most salient aspects of the foreign policy issue under discussion, namely, whether the Iraq invasion will prove to be worth the cost and whether the United States should invade countries that pose a threat, regardless of whether our allies support such an invasion. More esoteric questions, such as whether the Iraq invasion is at cross-purposes with the war on terror or whether the United States should share control of Iraq in return for more military and economic support, show weak effects. Although it is tempting to infer that more salient issues were more susceptible to group influence, this pattern was not replicated in October. Regardless of the centrality of the issue, the apparent effects of the Group Average scores were small during the final stages of the presidential campaign.

### *Experimental Variations*

The fact that there is only modest evidence for group effects could be viewed as an artifact of the Deliberative Poll format. The Deliberative Poll is explicitly designed to promote balanced and meaningful exchange of views within a diverse group. To explore the possibility that elements of the format are constraining group effects, we varied the format in a third Deliberative Poll carried out in October 2005. Three experimental variations were conducted: discussion group size was reduced across the board, a straw poll was instituted on survey items in one site, and in that same site, the moderator role was varied.<sup>13</sup>

Before turning to the experimental variations, let us first consider the results as a whole. Appendix Tables 1 and 2 present the descriptions of the October 2005 surveys. The tables indicate that there was relatively little directional movement in

<sup>13</sup> The third experiment took place on October 22 and 29, 2005. Unlike the prior Deliberative Polls, some of the participants were recruited from individuals who had been contacted for past *By the People* events. In this round, sites chose either healthcare or education as their discussion topics. Each site used the national background materials and surveys on the topic as well as local ones they themselves designed. Only the national surveys are included in this study.

survey responses after the day's discussion. And, as Appendix Tables 3 and 4 show, there is minimal evidence for group effects in the October 2005 poll.<sup>14</sup>

To test whether group size matters, the format of the October 2005 poll was altered to achieve greater variation in the size of groups at the polling sites. Randomly assigned group sizes in the October 2005 study ranged from 2 to 17, with a standard deviation of 2.81. The effects of group size on discussion were assessed by fitting an interaction term (group size x group average opinion) to the original model. Two of the 20 questions yielded statistically significant coefficients for the interaction term, both of which were negative. This evidence suggests that group size does not systematically moderate the effects of presurvey group opinions in a particular direction.<sup>15</sup>

In order to test whether group effects are dampened because participant responses to survey questions are expressed in private, we created an experimental condition in which preferences were explicitly revealed to group members in the New Haven site of the October 2005 poll. In each of the groups, a public straw poll was taken on a question that asked participants to choose one from among eight strategies for school improvement. The 23 groups at the New Haven site were randomly assigned to the treatment and control conditions. At the end of the day of discussion, the moderator of each treatment group asked for a show of hands on one of the local survey questions. Each person's specific answers to the survey question were publicly revealed and recorded. Postdiscussion surveys were then administered to group participants. In the control group, the order was switched so that the postdiscussion surveys were taken before the straw poll.

If it were true that seeing the decisions of other group members augments group influence, we would expect to see different survey responses in the two experimental conditions. However, a chi-square test indicates no statistically significant difference between the postsurvey responses in treatment and control groups (chi-square (5 d.f.) = 2.90). Having precise knowledge of group member preferences does not appear to affect the opinions of individual group members.

To test the impact of moderator style, moderators at the New Haven site of the October 2005 poll were divided into two groups and trained to carry out the moderator role somewhat differently. Moderators in the control condition received the standard Deliberative Poll training, which emphasizes the importance of actively promoting involvement by all participants. In the treatment condition, moderators were trained to err on the side of not intervening in group discussion. The "active" (control condition) and "passive" (treatment condition) moderators were then randomly assigned to the groups. Both sets of moderators were

<sup>14</sup> Only one of 20 items achieves statistical significance. Twelve of 20 coefficients on regression items are positive.

<sup>15</sup> One hypothesis about why group size matters is that it affects the odds that an individual has a like-minded compatriot in the group. We tested the effects of group average on individuals who were in groups with one compatriot or none. The null findings of these tests are included in the online appendix.

instructed not to express their own views; the crucial difference between the two types is their level of involvement in regulating the discussion. As a manipulation check, observers blind to the condition were sent to each discussion group and, as expected, found that passive moderators were indeed less likely to intervene.

Table 7 shows the ordered probit analysis of responses in the treatment and control conditions. A weak interaction is observed: one of five of the coefficients in the treatment group achieves statistical significance, and none in the control group does. These data provide at most faint support for the hypothesis that the role of the moderator dampens group average effects.

### *Discussion*

Ordinarily, experimental results are presented in ways that come down squarely in favor of or in opposition to a working hypothesis. In our case, the results are equivocal. Across the 34 regressions presented in the three experiments (Tables 5-6, A3-A4), we obtain positive coefficients in 19 equations. Four of the coefficients are statistically significant at the .05 level; all of them are positive. The largest effects that we observe suggest that each one-point shift in the discussion group's average score shifts the respondent's postdeliberation score by .26 probits. Given that the standard deviation of group means in our experiment tended to be roughly one-half of a scale point, gravitational pull toward one's discussion group exerts a rather weak force. Overall, our results are consistent with the hypothesis that individuals do in some circumstances hew to the views expressed by their discussion mates; at the same time, these results also suggest that this chameleon-like tendency is often subtle or nonexistent.

How can these null results be reconciled with the Asch paradigm on conformity? Lab experiments on group effects conducted in the 1970s have supported the Asch hypothesis that group influence shapes the opinions that individuals express (see a review of the literature in Myers & Lamm, 1976). It has been argued, however, that the results Asch found were an artifact of the era in which the studies were carried out. Replications of the Asch experiment suggest that the effect has dwindled in recent years (Bond & Smith, 1996). However, more recent work on the effects of priming would also suggest that attitudes are fairly flexible (Iyengar, 1991; Levy, 2002; Sunstein, 2000; Tversky & Kahneman, 1981; Zaller, 1992, but also see Druckman, 2004).

Why do the conformity effects seen in Asch and other active-design experiments not surface in the present large-scale passive-design study of group influence? One possibility is that the unacknowledged distinction between active and passive design is itself explanatory. Several studies on vote ordering in juries (also passive designs) show modest group effects that are comparable to our own findings (Davis et al., 1989; Davis, Stasson, Ono, & Zimmerman, 1988).

A second possibility is that the specific context and structure of the Deliberative Poll is dampening or neutralizing Asch-like effects. A number of possible

**Table 7.** Effects of Group Composition on Policy Views by Moderator Type  
(October 2005 New Haven Local Surveys)

<i>Active Moderators</i>					
	Performance standards negatively label schools already facing challenges <sup>c</sup>	Grade for public schools? <sup>d</sup>	Taxes to reduce achievement gap in region? <sup>e</sup>	Taxes to reduce achievement gap in town? <sup>e</sup>	Should towns retain control on how education money spent? <sup>f</sup>
Pre-deliberation Score ( $b_1$ )	0.31	1.02	0.33	0.33	0.47
	0.16	0.36	0.07	0.08	0.24
Group Average <sup>a</sup> ( $b_2$ )	-0.01	0.26	0.09	0.07	-0.52
	0.24	0.51	0.13	0.08	0.32
Observations <sup>b</sup>	56	56	57	57	56
Number of Discussion Groups	10	10	10	10	10
Log Likelihood	-76.86	-47.41	-104.48	-107.98	-62.48
<i>Passive Moderators</i>					
Pre-deliberation Score ( $b_1$ )	0.28	0.93	0.39	0.36	0.90
	0.10	0.20	0.07	0.07	0.24
Group Average <sup>a</sup> ( $b_2$ )	-0.02	0.29	0.06	-0.08	-0.32
	0.23	0.33	0.08	0.08	0.43
Observations <sup>b</sup>	62	60	63	62	60
Number of Discussion Groups	11	11	11	11	11
Log Likelihood	-83.71	-58.59	-113.10	-116.48	-55.89

Note

<sup>a</sup>Results control for the city in which the poll takes place. Group averages are calculated after pre-deliberation scores for those who did not answer or answered "haven't thought much about that" are imputed using the Amelia 2 software described in King (2001).

<sup>b</sup>Number of individuals engaging in discussion across all cities.

<sup>c</sup>Answer choices are: 1-strongly agree. 2-agree somewhat. 3-neither, 4-disagree somewhat. 5-disagree strongly.

<sup>d</sup>Answer choices are: 1-A, 2-B, 3-C, 4-D, 5-F.

<sup>e</sup>Answer choices are scaled from: 0-disagree strongly to 11-agree strongly.

<sup>f</sup>Answer choices are: 1-Very important. 2-Somewhat important. 3-Neutral, 4-Not very important. 5-Not at all important.

explanatory variables suggest themselves. As described above, the present experiment tested several: group size, moderator role, and public voting.

*Group size.* We would expect to see group effects in smaller groups. Group size may affect the presence of group effects via the two potential mechanisms mentioned earlier: information or conformity. In the classic Asch experiments, group conformity decreased when individuals had one compatriot in the group. Asch found that a subject's resistance to group influence depended on whether he found at least one like-minded ally in the group. In smaller groups, it is less likely that individuals will find like-minded compatriots.

Prior Deliberative Poll experiments (Luskin et al., 2002) suggest that exposure to information generates opinion change. One would expect that larger groups expose each individual to a greater variety of viewpoints and information. On the other hand, it may be information quality rather than information quantity that matters (Goethals & Zanna, 1979). A smaller group setting allows individuals the opportunity to fully express their views and the motivations that underlie them. One interpretation of our results is that these competing hypotheses may balance out; we find no consistent relationship between group size and group effects. Another possible interpretation is that learning may be insufficient to change opinion, a conclusion supported by other experimental research on information and attitude change (Kuklinski, Quirk, Jerit, Schwieder, & Rich, 2000).

*Public disclosure of views.* The format of the Deliberative Poll encourages individuals to express their views under the guidance of a group moderator. In jury or committee settings, committees deliberate prior to an open vote; during a Deliberative Poll, however, individuals discuss issues under the supervision of a moderator, and opinions on issues are recorded on private surveys. It is therefore possible that this format prevents the revelation of preferences.

Experimental evidence from the 1960s and 1970s suggests that preferences must be directly revealed if they are to result in group effects. Madaras and Bem (1968) show that group members move in the socially preferred direction when survey items are specifically discussed, but do not move at all on nondiscussed items. This holds even when the nondiscussed questions are substantively very similar to discussed questions, and Myers (1978) and Goethals and Zanna (1979) show that the preferences of group members must be clearly revealed in order for group effects to occur. It would seem that the influence of group discussion, then, depends on whether it conveys group members' values and opinions on specific questions. However, in the results presented above, we find no evidence that even explicit public revelation of preferences affected the expression of opinions.

*Moderator role.* In the Deliberative Poll format, the moderator's job is to structure a balanced discussion among all participants. Reticent members are encouraged to speak up, and garrulous participants are reined in. In real-life deliberative situations, moderators rarely exist. It is possible that the observed lack

of group effects is the result of the moderator's role of encouraging respect for all opinions. As shown above, however, we find no evidence that moderators with active or passive roles influence whether or not we observe group effects.

It is also possible that actively moderated groups are unlike real-world discussion because they prevent domination of the discussion by members of privileged socioeconomic, racial, or gender groups. Unequal discussion could favor dominant socioeconomic members, much as they are believed to be favored in other types of deliberations (Mendelberg, 2006). Fulwider (2006) compares a small number of randomly assigned moderated and unmoderated discussion groups. He discovered that moderators have positive effects such as reducing interruptions, but participants' ratings of the fairness and probity of the discussions showed fairly small and inconsistent effects. In our replication based on a much larger number of discussion groups, we found no difference in the perceived fairness of discussion in treatment and control groups as measured by evaluation questions included in the postevent survey. The presence of an active moderator neither prevents nor induces shifts to the group opinion through any observable mechanism, including fairness.

*Other elements?* What other features of the Deliberative Poll might be inhibiting group effects? Possibilities include: exposure to countervailing views due to the heterogeneity of each discussion group; the provision of balanced background materials and the opportunity for participant questioning of a panel representing diverse points of view; the character of the topics; and the absence of a requirement to reach a decision/come to consensus.

#### *a. Diverse Discussants and Points of View*

The subjects of active-design experiments—including the Asch studies—tend to be students, a relatively homogeneous group that may be more susceptible to group influence. The field experiment studied here, based as it was on random invitation within a defined geographic area, yielded more heterogeneity on a variety of demographic and attitudinal variables than most lab experiments. The heterogeneity of the pool and random assignment to groups meant that all individuals were confronted by diverse viewpoints. In the Deliberative Polling context, a variety of public policy perspectives were also represented by background materials and a panel of experts. All of the groups in our study would therefore qualify as “counter-framing” or “cross-cutting” in the sense used by Druckman in his demonstrations that exposure to different “framing” arguments through deliberation reduces the impact of any one of those arguments (Druckman, 2004; Druckman & Nelson, 2003). Consistent with the idea that the presentation of balanced arguments dampens group effects, a number of studies on group polarization have shown that individuals are likely to become more moderate in a group when surrounded by a variety of viewpoints (Myers & Bach, 1974; Vinokur & Burnstein, 1978). Within the deliberative sites, policy opinions tended to become slightly less dispersed over the course of deliberation. It may be that the real effect

of deliberation is to crystallize an individual's issue positions. This alone would reduce the variance; variability would be diminished not because of the weight of opinion in the group but because individuals solidify their positions through discussion.

*b. Topics*

In Asch-type studies, subjects render a judgment on a question about which they have no strong prior views or personal commitments. Individuals in the Asch experiments may have been more readily influenced by group members because they lacked a personal stake in the issue at hand. Asch hypothesized that political attitudes would be more susceptible to influence since they are less certain than a simple line judgment test. The results here indicate that political attitudes are actually more rather than less sturdy. Personal convictions concerning the topics may also be one reason why the results of the Deliberative Polls differ from the jury discussions studied by Mendelberg (2006). In the January and October 2004 polls, the issues discussed were the main issues of the campaign: the war in Iraq and the economy. The presidential campaign may have enhanced this effect: by the time participants convened in October 2004, three weeks before the election, they had grown resistant to small-group pressures. In 2005, health care and education ranked among the most widely cited problems of national significance. Individuals may have solidified their issue positions and felt confident in their own views. The one piece of evidence that fails to square with this interpretation is the fact that the January poll showed evidence of group-induced opinion change on the central issues surrounding the Iraq War, which were highly salient. However, it should be noted that at the time of the January poll, opinion about the Iraq War was in a state of flux in the general population. When asked "All in all, considering the costs to the United States versus the benefits to the United States, do you think the war with Iraq was worth fighting, or not?" the percentage of the public saying yes dropped from the upper 50s in December and January to the upper 40s thereafter.<sup>16</sup>

A final hypothesis is that group influence was muted because deliberative polls did not require (or encourage) groups to ratify a collective choice. Although some deliberative polls have guided administrative decisions (Fishkin & Luskin 2005), it remains for future research to determine whether deliberation aimed at generating a specific policy decision causes the composition of a discussion group to have greater sway over its participants' postdeliberation preferences (cf. Thompson 2008). For the moment, it should be noted that the Asch effect was obtained in the context of individual expressions that were not connected to a collective choice.

<sup>16</sup> These data come from ABC News/Washington Post Polls summarized at <http://www.pollingreport.com/iraq2.htm>.

### Conclusion

After several years of experimentation, we have found little evidence that group composition influences postdiscussion attitudes. This persistent finding, which holds across a range of experimental variations and for subgroups defined by political knowledge, suggests that the expectations of the Asch literature do not apply to the Deliberative Poll setting. The weak effects that we observe in our experiments may say as much about the special features of the Deliberative Poll as they do about information exchange and the pressures of conformity. Deliberative Polls strive to provide balanced background materials and encourage open-mindedness.

Our experimental results at the very least demonstrate that it is possible to construct a deliberative environment that does not induce group composition effects. Our design does not enable us to pin down whether the absence of group effects is due to a short circuiting of pressures to conform (a welcome result from the point of view of the deliberative democrat), or instead to a less normatively attractive pattern by which “stronger arguments” fail to carry the day in group discussion. None of the traditional markers of undesirable influence (gender, race) are predictive; but neither are variables (education, even age) that could be related not just to persuasiveness but also to the quality of an argument. Information does seem to be getting through: participants learn. The relative heterogeneity of all the groups, the personal investment of the participants in the topics, the access to balanced background materials and panels, may be ensuring that all the arguments (including the best ones) are being heard by all participants, regardless of their particular group assignment. The results of two of the experimental variations in structure discussed earlier are suggestive: moderator style and nondisclosure of views do not appear to be determinants of group influence. That is, no powerful forces of conformity are unleashed or held in check by altering these structural peculiarities (contrary to what the literature referred to in our discussion of these experimental variations would lead one to expect). Nor is there any evidence that persuasiveness of the desirable sort has been thwarted ... or encouraged. Further experimental research, based on manipulating and observing the nuanced character of small-group discussions, would be required to tease out the normative implications of an absence of group effects.

Although we have considered a range of experimental modifications to the basic Deliberative Poll format, the next step in this line of research is to design experimental variations that depart even more radically from the standard format. The objective would be to isolate the factor that differentiates our results from those of Mendelberg (2006), which are based on a methodologically similar paradigm but involve mock juries and award damages.<sup>17</sup> It would be interesting if

<sup>17</sup> One potentially important difference between our experiments and Mendelberg's has to do with the way in which the randomization process is modeled statistically. In our studies, individuals within

the active ingredient that mitigates group effects were something as simple as background materials provided to respondents during the week prior to group discussion or respondents' ability to pose questions to experts on both sides of an issue. Such a result would suggest that group pressures are not an inherent feature of political dialogue but are readily enhanced or mitigated by aspects of the context within which discussion occurs. A more ominous possibility, however, is that the formulation of collective decisions such as jury verdicts magnifies the effects of group pressures. Were future experiments to find that verdicts or group votes generate markedly different social psychological pressures, the implications for institutional design would be profound.

### **Appendix Estimations for January 2004 and October 2004 Data**

#### Questions used on the January 2004 analyses

- v1—By the time we leave Iraq, the results will have been worth the cost in lives and dollars.
- v2—The US should share its control of Iraq with other countries or the U.N. in return for their sharing more of the military and financial burden.
- v3—In general, the US should be willing to invade other countries we believe pose a serious and immediate threat, even if we don't have a lot of international support.
- v4—The war in Iraq has got in the way of the war on terror.
- v5—What sort of impact would you say that NAFTA has had so far on the American economy?
- v7—On the whole, more free trade means more jobs, because we can sell more goods abroad.

#### Questions used on the October 2004 analyses

- v3—We must not hesitate to invade other countries when we think they pose a serious threat, even when we are not completely sure.
- v4—We must not hesitate to invade other countries when we think they pose a serious threat, even if we do not have ally support.
- v5—The U.S. should be willing to intervene in the affairs of other countries to make them more democratic.
- v6—By the time we leave Iraq, the results will have been worth the cost in lives and dollars.

each site were randomly assigned to discussion groups. This procedure implies that assignment is random within but not across sites. Mendelberg's data were collected from mock juries conducted over several points in time. Individuals were randomly assigned within each session but not across session. Our statistical model controls for the sites within which randomization occurred, whereas Mendelberg does not control for the sessions during which mock juries were formed.

v7—The war in Iraq has gotten in the way of the war on terror.

v16—Protecting existing American jobs and industries is more important than lowering prices and creating new jobs through free trade.

v17—American companies should be penalized for moving jobs to other countries.

v21—The Bush administration tax cuts should be made permanent.

#### Estimations

1. Group effect using median (grpmedvX) as measure of group pre-opinion
2. Group effect using % who are on the same “side” as respondent (pctsamevX) as measure of group pre-opinion
  - NOTE: only includes respondents on a “side”—excludes respondents who choose central option
3. Group effect conditional on an individual being >1 std dev (extdiffvX) away from group mean on pre-test
  - Hypothesis that group effect is conditional on extremity of individual’s opinion relative to the group would be supported by a statistically significant coefficient on the interaction term (interactvX)
4. Group effect conditional on respondent having one compatriot in the group (vXonecomp)
  - Hypothesis that group effect is conditional on presence of 1 compatriot in the group would be supported by a statistically significant coefficient on the interaction term (int1vX)
5. Group effect conditional on respondent having no compatriots in the group (vXnocomp)
  - Hypothesis that group effect is conditional on presence of compatriots in the group would be supported by a statistically significant coefficient on the interaction term (int0vX)
6. Group effect conditional on being in an extreme group (i.e., a group >1 sd from the mean group score) (extgrpvX)
  - Hypothesis that group effect is conditional on extremity of the group would be supported by a statistically significant coefficient on the interaction term (intextgrpvX)
7. Group effect controlling for demographics: age, sex, white, African-American (other is excluded), education
8. Group effect conditional on age
  - Hypothesis that group effect is conditional on demographics of respondent would be supported by a statistically significant coefficient on the interaction term (intageX)
9. Group effect conditional on sex
  - Hypothesis that group effect is conditional on demographics of respondent would be supported by a statistically significant coefficient on the interaction term (intsexX)

10. Group effect conditional on race
  - Hypothesis that group effect is conditional on demographics of respondent would be supported by a statistically significant coefficient on the interaction terms (intwhiteX intafamX)
11. Group effect conditional on education
  - Hypothesis that group effect is conditional on demographics of respondent would be supported by a statistically significant coefficient on the interaction term (inteduX)

### Appendix Estimations for 2005 Education and Health Data

#### Questions used on the 2005 Health analyses

- v1—Which of these health care system problems is most important?
- v2—SECOND most important health care system problem?
- v3—Do your Washington reps share your priorities to improve health care?
- v4—Do your state reps share your priorities to improve health care?
- v5—Willing to pay more than you do now for health care if more Americans would have health insurance coverage?
- v6—Effective or ineffective: Increasing co-pays and deductibles for consumers?
- v7—Effective or ineffective: Relying on managed care through HMOs?
- v8—Effective or ineffective: Limiting government funds for healthcare?
- v9—Effective or ineffective: Increasing government control of/involvement in healthcare?
- v10—The first priority of government should be to help the worst off.
- v11—The first priority of government should be to make the whole country prosper.
- v12—The first priority of government should be to let people make their own choices.

#### Questions used on the 2005 Education analyses

- v1—Grade for public community schools?
- v2—Grade for national public schools?
- v3—Correct amount of emphasis on standardized testing in public community schools?
- v4—Tests for student achievement should be set by state or local school boards?
- v5—Which problem most important for the nation's schools to improve?
- v7—Do your reps in Washington share your priorities for how to improve education?
- v8—Do your state reps at the state capital share your priorities for how to improve education?

- v9—Approve or disapprove of No Child Left Behind Act?
- v10—How much does amount of money spent by public school affect the quality of its education?
- v11—Large classes do not have much effect on student performance.
- v12—The first priority of government should be to help the worst off.
- v13—The first priority of government should be to make the whole country prosper.
- v14—The first priority of government should be to let people make their own choices.

#### Estimations

1. Group effect using median (grpmedvX) as measure of group pre-opinion
2. Group effect using % who are on the same “side” as respondent (pctsamevX) as measure of group pre-opinion
  - NOTE: only includes respondents on a “side”—excludes respondents who choose central option
3. Group effect conditional on an individual being >1 std dev (extdiffvX) away from group mean on pre-test
  - Hypothesis that group effect is conditional on extremity of individual’s opinion relative to the group would be supported by a statistically significant coefficient on the interaction term (interactvX)
4. Group effect conditional on respondent having one compatriot in the group (vXonecomp)
  - Hypothesis that group effect is conditional on presence of 1 compatriot in the group would be supported by a statistically significant coefficient on the interaction term (int1vX)
5. Group effect conditional on respondent having no compatriots in the group (vXnocomp)
  - Hypothesis that group effect is conditional on presence of compatriots in the group would be supported by a statistically significant coefficient on the interaction term (int0vX)
6. Group effect conditional on being in an extreme group (i.e., a group >1 sd from the mean group score) (extgrpvX)
  - Hypothesis that group effect is conditional on extremity of the group would be supported by a statistically significant coefficient on the interaction term (intextgrpvX)
7. Group effect conditional on group size (grpsize)
  - Hypothesis that group effect is conditional on group size would be supported by a statistically significant coefficient on the interaction term (intsizevX)

### **Randomization Checks for January 2004 and October 2004 Data**

For each outcome measure, the following four tests are provided using the original datasets from which the imputed data used in the paper were created. Thus these randomization checks are conducted using listwise deletion for observations in which there is a missing right-hand side variable:

1. Regression of group mean on pre-opinion, age, sex, race (white, African American, Other (excluded)), and city dummies.
2. Wald test of whether the coefficients for the demographics in the preceding model are jointly equal to 0.
3. Regression of group mean on pre-opinion, age, sex, race (white, African American, Other (excluded)), city dummies, and pre-opinion for all other questions being analyzed in the paper.
4. Wald test of whether the coefficients for the demographics and the other questions being analyzed in the paper are jointly equal to 0.

### **Randomization Checks for 2005 Education and Health Data**

For each outcome measure, the following two tests are provided using the original datasets from which the imputed data used in the paper were created. Thus these randomization checks are conducted using listwise deletion for observations in which there is a missing right-hand side variable:

1. Regression of group mean on pre-opinion for the outcome measure, city dummies, and pre-opinion for all other questions being analyzed in the paper.
2. Wald test of whether the coefficients for other questions being analyzed in the paper are jointly equal to 0.

<http://research.yale.edu/vote/Deliberative%20Polls%20-%20Web%20Appendix%20061008.zip>

**Table A1.** October 2005 Education  
Descriptive Statistics

Question Wording		Observations <sup>a</sup>	Mean <sup>b</sup>	Standard Deviation <sup>b</sup>
Students are often given the grades A, B, C, D, or FAIL to denote the quality of their work. Suppose the public schools themselves, in your community, were graded in the same way. What grade would you give your community's public schools? <sup>c</sup>	Pre	439	2.54	1.03
	Post	462	2.61	1.02
How about the public schools in the nation as a whole? What grade would you give the public schools nationally? <sup>c</sup>	Pre	441	2.99	0.81
	Post	454	3.00	0.77
In your opinion is there too much emphasis on standardized testing in the public schools in your community, about the right amount, or not enough emphasis? <sup>d,i</sup>	Pre	415	1.64	0.71
	Post	448	1.52	0.67
To what degree do you think your elected representatives in Washington share your priorities for how to improve education? <sup>e</sup>	Pre	357	4.74	2.12
	Post	378	4.71	2.12
To what deegree do you think your <u>elected state</u> <u>representatives</u> at the state capital share your priorities for how to improve education? <sup>e</sup>	Pre	380	5.00	2.16
	Post	401	5.13	2.14
From what you know or have heard about the No Child Left Behind Act, do you approve or disapprove of it or couldn't you say? <sup>f,i</sup>	Pre	440	3.23	1.40
	Post	451	3.39	1.45
How much would you say that the amount of money spent by a public school affects the quality of education it provides? <sup>g</sup>	Pre	464	1.86	0.81
	Post	465	1.83	0.76
Large classes do not have much effect on student performance. <sup>h</sup>	Pre	468	3.88	1.41
	Post	467	3.75	1.46
The first priority of government should be to help the worst off. <sup>h</sup>	Pre	464	2.63	1.27
	Post	470	2.55	1.31
The first priority of government should be to make the whole country prosper. <sup>h</sup>	Pre	461	2.30	1.21
	Post	461	2.25	1.20
The first priority of government should be to let people make their own choices. <sup>h</sup>	Pre	462	2.14	1.12
	Post	467	2.07	1.05

## Notes

<sup>a</sup>Number of individuals engaging in discussion across all cities.

<sup>b</sup>Excludes those who answered "couldn't say" or "haven't thought much about that" from the group average.

<sup>c</sup>Answer choices range from 1-A to 5-F.

<sup>d</sup>Answer choices are: 1-not enough, 2-the right amount, 3-too much.

<sup>e</sup>Answer choices are scaled from 0 to 10: 0 = Completely different priorities, 10- completely the same.

<sup>f</sup>Answer choices are: 1-approve strongly, 2-approve somewhat, 3-neither approve nor disapprove, 4-disapprove somewhat, 5-disapprove strongly.

<sup>g</sup>Answer choices are: 1-A great deal, 2-somewhat, 3-very little, 4-hardly at all.

<sup>h</sup>Answer choices are: 1-agree strongly, 2-agree somewhat, 3-neither agree nor disagree, 4-disagree somewhat, 5-disagree strongly.

<sup>i</sup>In difference in means t-test using individual as the unit of analysis, change is significantly different from 0 at the  $\alpha = 0.05$  level  $H_0$ : mean (post-discussion mean—pre-discussion mean) = mean(difference) = 0;  $H_a$ : mean(difference)  $\neq$  0.

**Table A2.** October 2005 Healthcare  
Descriptive Statistics

Question Wording		Observations <sup>a</sup>	Mean <sup>b</sup>	Standard Deviation <sup>b</sup>
To what degree do you think your elected representatives in Washington share your priorities for how to improve health care? <sup>c</sup>	Pre	254	4.43	2.14
	Post	277	4.36	2.06
To what degree do you think your elected state representatives at the state capital share your priorities for how to improve health care? <sup>c</sup>	Pre	238	4.36	2.11
	Post	271	4.49	2.01
How effective or ineffective would this be at controlling health care costs? Increasing co-pays and deductibles for consumers. <sup>d, g</sup>	Pre	309	3.21	1.28
	Post	313	3.03	1.24
How effective or ineffective would this be at controlling health care costs? Relying on managed care through HMOs. <sup>d</sup>	Pre	301	3.22	1.25
	Post	306	3.11	1.27
How effective or ineffective would this be at controlling health care costs? Limiting government funds for healthcare. <sup>d</sup>	Pre	302	3.94	1.24
	Post	311	3.78	1.23
How effective or ineffective would this be at controlling health care costs? Increasing government control of/involvement in healthcare. <sup>d</sup>	Pre	317	2.78	1.43
	Post	316	2.69	1.36
The first priority of government should be to help the worst off. <sup>e</sup>	Pre	318	2.47	1.30
	Post	320	2.39	1.29
The first priority of government should be to make the whole country prosper. <sup>e</sup>	Pre	323	2.33	1.34
	Post	320	2.34	1.30
The first priority of government should be to let people make their own choices. <sup>e</sup>	Pre	324	2.13	1.12
	Post	321	2.08	1.04

Notes

<sup>a</sup>Number of individuals engaging in discussion across all cities.

<sup>b</sup>Excludes those who answered “couldn’t say” or “haven’t thought much about that” from the group average.

<sup>c</sup>Answer choices are scaled from 0-completely different priorities to 10-completely the same.

<sup>d</sup>Answer choices are: 1-yes, slightly more, 2-yes, significantly more, 3-no.

<sup>e</sup>Answer choices are: 1-very effective, 2-somewhat effective, 3-neither effective nor ineffective, 4-somewhat ineffective, 5-very ineffective.

<sup>f</sup>Answer choices are: 1-agree strongly, 2-agree somewhat, 3- neither agree nor disagree, 4-disagree somewhat, 5-disagree strongly.

<sup>g</sup>In difference in means t-test using individual as the unit of analysis, change is significantly different from 0 at the  $\alpha = 0.05$  level  $H_0$ : mean (post-discussion mean—pre-discussion mean) = mean(difference) = 0;  $H_a$ : mean(difference)  $\neq$  0.

**Table A3. Effects of Group Composition on Education Views**  
October 2005

	Grade for community schools	Grade for public schools	Level of emphasis on standardized testing	Washington politicians share your priorities?	Local politicians share your priorities?	Approve of No Child Left Behind Act?	Amount of money affect education quality?	Large classes have effect on students?	Government should first help worst off?	Government should first make whole country prosper	Government should first let people make own choices
Pre-deliberation	1.19	1.22	1.05	0.37	0.36	0.76	0.84	0.49	0.79	0.72	0.67
Score	0.21	0.18	0.11	0.04	0.04	0.06	0.10	0.06	0.07	0.06	0.06
Group Average <sup>a</sup>	0.01	-0.24	0.25	0.02	0.02	0.25	0.10	0.05	0.07	-0.11	-0.16
	0.21	0.22	0.31	0.07	0.09	0.12	0.18	0.11	0.11	0.14	0.11
Observations <sup>b</sup>	446	438	432	400	416	437	450	453	454	445	451
Number of Discussion Groups	60	60	60	60	60	60	60	60	60	60	60
Log Likelihood	-447.76	-372.71	-315.56	-760.52	-797.21	-488.92	-401.64	-548.18	-525.71	-514.12	-498.44

Note:

<sup>a</sup>Results control for the city in which the poll takes place. Group averages are calculated after pre-deliberation scores for those who did not answer or answered "haven't thought much about that" are imputed using the Amelia 2 software described in King (2001)

<sup>b</sup>Number of individuals engaging in discussion across all cities.

**Table A4. Effects of Group Composition on Healthcare Views**  
October 2005 Poll

	Washington politicians share your HC priorities?	politicians share your HC priorities?	Increase co-pays and deductibles?	Rely on managed care through HMOs?	Limit government funds for healthcare?	Increase government involvement in healthcare?	Government should first help worst off?	Government should first make whole country prosper	Government should first let people make own choices
Pre-deliberation score	0.34	0.33	0.70	0.62	0.45	0.39	0.69	0.79	0.67
	0.05	0.05	0.07	0.08	0.06	0.06	0.07	0.08	0.08
Group Average <sup>a</sup>	-0.06	0.01	-0.11	0.02	-0.08	-0.01	-0.09	0.20	0.20
	0.09	0.06	0.15	0.17	0.11	0.10	0.09	0.13	0.15
Observations <sup>b</sup>	280	270	289	283	286	291	295	294	295
Number of Discussion Groups	51	51	51	51	51	51	51	51	51
Log Likelihood	-526.53	-517.89	-340.87	-334.50	-369.17	-391.19	-348.10	-329.59	-315.74

Note:

<sup>a</sup>Results control for the city in which the poll takes place. Group averages are calculated after pre-deliberation scores for those who did not answer or answered "haven't thought much about that" are imputed using the Amelia 2 software described in King (2001).

<sup>b</sup>Number of individuals engaging in discussion across all cities.

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