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How Balanced Discussion Shapes Knowledge, Public Perceptions, and Attitudes: A Case Study of Deliberation on the Los Alamos National Laboratory

John Gastil*

*University of Washington, jgastil@u.washington.edu

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Abstract

Prior research has demonstrated the potential impact of carefully orchestrated public forums, such as National Issues Forums and deliberative polls. Many public discussions, however, lack the careful design and focused purposes of such events, and it remains unclear to what extent informal conversations and public meetings can produce the same knowledge gains and attitude changes. If public meetings and conversations are to have similar impacts, they may require important features of deliberation, such as the balanced presentation of alternative viewpoints. To explore the associations of perceived discussion balance with issue knowledge, attitude integration, and the misperception of public attitudes, this study used cross-sectional survey data regarding how New Mexicans view Los Alamos National Laboratory (LANL). The findings confirm the significance of perceived discussion balance for many—but not all—of the positive cognitive impacts of public discussions and conversations. Moreover, these findings show that deliberation is more scarce for some sub-publics than others, and the deliberative experience may be least common for those who need it most.

KEYWORDS: attitude integration, balanced discussion, conversation, deliberation, Los Alamos

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National Laboratory, misperception, New Mexico, political knowledge, public meetings, public opinion

Though there exist multiple understandings of public deliberation, all agree that one valuable deliberative practice is conducting a substantive discussion among a small number of persons in face-to-face settings (e.g., Fishkin, 1997; Mathews, 1994; Mendelberg, 2002). In such discussions, participants can develop a stronger sense of civic identity and self-efficacy, augment their political knowledge and communication skills, and refine their political judgments (Burkhalter, Gastil, & Kelshaw, 2002; Cappella, Price, & Nir, 2002; Delli Carpini, Cook, & Jacobs, 2004; Fishkin & Luskin, 1999; Gastil, 2004; Gastil, Deess, & Weiser, 2002; Gastil & Levine, 2005; Luskin, Fishkin, & Jowell, 2002).

What is less clear is precisely *how* and *when* discussion has these effects. First of all, what behaviors constitute clear evidence that genuine deliberation is taking place during a conversation or public discussion? Second, what are the communicative and cognitive processes through which public deliberation changes attitudes, beliefs, and habits? Finally, are these effects consistent across different groups of participants?

The present study aims to make a modest contribution to answering each of these questions. Among the many effects hypothesized in the deliberation literature, this study examines issue-specific political knowledge, attitudes, and perceptions. The study also considers another potential impact of deliberation—its effect on the accuracy of participants' perceptions of one another's attitudes. In addition, the study compares informal political conversations (Walsh, 2004) with public meetings and uses self-report data to measure one aspect of public deliberation—*the balanced presentation of alternative perspectives*.

These issues are investigated in the context of the New Mexican public's perceptions of Los Alamos National Laboratory (LANL), a large government facility whose budget rivals that of the State of New Mexico. The study benefits from a rich context and large samples of diverse participants, but it relies entirely on cross-sectional, self-report data, which limit *direct* causal

inference. In effect, the present study extends the causal relationships generally demonstrated elsewhere (Cappella, Price, & Nir, 2002; Delli Carpini et al., 2004; Farrar et al., 2003; Gastil & Dillard, 1999; Gastil et al., 2002; Hansen & Anderson, 2004; Luskin, Fishkin, & Jowell, 2002) into a new deliberative research context. Before describing the nature of the New Mexico data further, however, it is useful to begin by reviewing in greater depth the theoretical issues this paper aims to address.

The Principle of Balance in Public Deliberation

Those who see value in face-to-face deliberation have often looked for signs of deliberative activity in more routine settings (Jacobs, Delli Carpini, & Cook, 2004). Some scholars have stressed the potential for deliberation to take place in more mundane public settings, such as town meetings and even public hearings (Kelshaw, 2002; McLeod et al., 1999). Others have suggested that informal conversations among peers, coworkers, friends, and families could be effective conduits of interpersonal influence and at least a limited form of deliberation (Huckfeldt & Sprague, 1995; Mutz, 2002).

Even when the concept of deliberation is stretched across a broad range of settings—from conversations and conventional public meetings to special deliberative events—at least one idea runs through each of these deliberative contexts—the notion that *in a relatively deliberative interaction, each viewpoint that is present has a chance to be expressed and heard* (e.g., Burkhalter et al., 2002; Fishkin, 1997; Page, 1996). At a minimum, the "balance principle" requires that during a public meeting, the deliberative process must not be undermined by individuals who take up all the meeting time and refuse to let other points of view be heard (Gastil, 1993).

Balancing viewpoints and sharing the floor are basic principles of democratic discussion in a range of settings. These principles shaped the most influential format for legislative

deliberation, *Robert's Rules of Order*, which explicitly balances pro and con arguments and requires a two-thirds vote to close debate. One of General Roberts' principal concerns was that the majority must "give the minority a full, free opportunity to present their side of the case" (Robert, 1990, p. xliii).

The equal opportunity to speak is also a cornerstone of democratic small group discussion (Gastil, 1993). In an informal conversation, this means an exchange that is not dominated by a single person who pushes a single viewpoint and rudely interrupts others to the point that they have little chance to speak (Derber, 1979). Over the years, there have been numerous studies on interruption (Anderson & Leaper, 1997), and intrusive forms of interruptions have been found to disrupt otherwise balanced, cooperative conversations and reinforce preexisting social status differences. If public meetings and conversations are sometimes less than deliberative, it is often precisely for this reason—that an individual or group dominated the exchange and advocated a single point of view to the exclusion of all others.

The identification of a key feature of deliberation is useful because it makes it possible to move beyond previous research, which has often been reduced to operationalizing deliberation loosely as a dichotomous variable that is assumed to be present during public forums employing particular discussion procedures (Denver, Hands, & Jones, 1995; Fishkin & Luskin, 1999; Gastil & Dillard, 1999; McLeod et al., 1999). By contrast, an operational definition of discursive balance can make it possible to distinguish relatively deliberative from relatively non-deliberative conversations and town meetings.

When the balance principle is juxtaposed with findings from previous research on deliberation, it is possible to hypothesize numerous ways in which it might moderate the impact of discussion on participants. Herein, I focus on three such effects—information gains, integrating issue-related beliefs, and overcoming misperceptions.

First, deliberative events are often found to increase participants' levels of political knowledge (Cook et al., 1999; Fishkin & Luskin, 1999; Hansen & Anderson, 2004; Luskin, Fishkin, & Jowell, 2002). Knowledge gains depend on the provision of new and accurate information, as well as the perception that the information is credible. Under conditions of conversational domination, it is unlikely that balanced information will be provided. Moreover, under such conditions, an impartial observer is less likely to trust the information that *is* presented. By contrast, a participant who hears more than one perspective on a factual matter would be more likely to view the discussion as fair and balanced and, hence, give credence to whichever pieces of information best withstood scrutiny.

A second effect often attributed to deliberative forums is the integration of related beliefs to form a more reflective, coherent, and comprehensive judgment on the matter at hand (Cappella et al., 2002; Fishkin & Luskin, 1999; Gastil & Dillard, 1999; Luskin et al., 2002; Mathews, 1994; Sturgis, Roberts, & Allum, 2005). Whether deliberation has this effect depends on how one conceptualizes opinion sophistication. Herein, only one facet of sophistication is studied—the integration of ideologically similar beliefs on a single subject (Gastil & Dillard, 1999). Bringing into alignment ideologically-related beliefs can make one's opinion more politically coherent within the left-right ideological framework that is predominant in American politics (Abramowitz & Saunders, 1998).

During issue discussions, one can test one's own views and hear others with similar and opposing views articulate their own beliefs. It might be the case that the integrative process would be aided by a more balanced discussion, but that is not necessarily so. In this case, one can pick up ideological cues from the left or the right regardless of which side is dominating a debate. In fact, if other views are likely to be filtered out, ideologically-similar cues might be most important (Zaller, 1992), regardless of whether they emerge in a balanced discussion.

Finally, one potential effect of deliberation that has received relatively little attention is its capacity to remove misperceptions of how other members of the public view an issue. Individuals' beliefs can be influenced by their perceptions of how the larger public views an issue (Eveland, McLeod, & Signorielli, 1995; Mutz, 1998). If people hold inaccurate estimates of their fellow citizens' views, a discussion that has a *representative* balance of views could give them a more accurate understanding of what the larger public thinks. For example, when public opinion is relatively evenly divided on an issue, only a balanced presentation of viewpoints would leave a participant with an accurate sense of the distribution of public opinion.

The New Mexico Research Context

These impacts of discussion, with and without balance, are hypothetical, but it is possible to examine each in relation to an actual political context. This study addresses these issues in the political-cultural setting of northern New Mexico and its relationship with Los Alamos National Laboratory (LANL). Originally built to develop the United States atomic weapons program, LANL has evolved into a multifaceted national research laboratory. Situated in the midst of a confluence of cultures, the Laboratory has a complex relationship with its neighbors, who have often debated the Lab's mission, safety, and impact on the region. A brief overview of the region helps one understand the context in which the northern New Mexican public has deliberated (or failed to deliberate) on these issues.

Distinct Cultural Groups

Northern New Mexico has a unique history. The three counties surveyed in this study—Rio Arriba, Santa Fe, and Los Alamos—encompass distinct cultural groups, each of whom possesses a strong sense of place and identity. Though these counties make up only a tenth of the state's population, they include the Native American, Hispanic, and Anglo cultural groups that

have most clearly defined New Mexico's political-cultural landscape (Garcia, 1994; Gastil, Jenkins-Smith, & St. Clair, 2002; Holmes, 1967; Szasz, 1994).

The Pueblo Indians living in the region have continuously inhabited the same areas for centuries, though Spanish and Anglo incursions diminished the size of their lands (Sando, 1992). A chain of seventeen Pueblos stretches from northern to central and western New Mexico, and most fall along the Rio Grande or its tributaries. Many of the Northern Pueblos that exist within Rio Arriba County and Santa Fe County have begun to achieve a level of political and economic influence that rivals their long-standing cultural impact on the state.

The Spanish impact on the region is also considerable (Holmes, 1967; Simmons, 1977). As part of the larger Spanish exploration of North and South America, Spanish conquistadores and missionaries traveled up the Rio Grande into and beyond northern New Mexico in the late sixteenth century. Politically, the Spanish American population remains very powerful in the region. Members of other ethnic groups are only rarely elected to local offices, and statewide political campaigns must reckon with the relatively solid Democratic voting block in the area.

The Green Party's successes in northern New Mexico in the 1990s came more from a liberal, Anglo constituency (Gastil, Jenkins-Smith, & St. Clair, 2002). Since the turn of the century, politically liberal and culturally avant-garde Anglos, including Georgia O'Keefe and D. H. Lawrence, have migrated to Santa Fe and surrounding areas. In recent years, the political influence of these Anglo liberal residents of Santa Fe has been considerable. They have successfully elected progressive Green Party officials to local legislative and judicial offices and have wreaked havoc on insufficiently liberal Democratic candidates (e.g., Oswald, 1997).

Few members of the three aforementioned political-cultural groups have located themselves in Los Alamos County, which is home to a fourth constituency. The vast majority of the residents of this small, two-town county are there for one reason: They work (or used to

work) at LANL. The numerous written accounts of the Lab's political and cultural history have emphasized the insular nature of the Lab and the larger Los Alamos community, as if they were separated not only geographically but also socially from the surrounding counties (e.g., Rosenthal, 1990; Shroyer, 1997).

Given this historical and cultural context, it is not surprising that northern New Mexicans vary considerably in their views toward LANL. In parallel with the history of the region, Gastil and Jenkins-Smith (1998) found that differences in public perceptions of the Lab could be explained, in part, by distinguishing among three sub-publics: "Losalamosans" (employees of the Laboratory or residents of the town); "Traditionals" (native northern New Mexicans, including both Pueblo and Spanish American inhabitants); and "Santa Fe Anglos" (white residents of Santa Fe).

Losalamosans have extremely positive feelings toward the Lab and science itself, and they are skeptical of any claims that the Lab has harmed nearby communities in any way. By contrast, many Traditionals and Santa Fe Anglos perceive the Lab as a hazard. Although they are willing to contact the Lab directly to express their concerns, they also believe that the Lab is not responsive to their concerns. To make their voices heard regarding the Lab, Traditionals appear to rely on traditional forms of local and state representation, whereas most Santa Fe Anglos say that they need an impartial body of citizens, environmentalists, and neutral scientific experts to represent their interests. Although Traditionals and Santa Fe Anglos have their differences, the clearest chasm lies between those two groups and the Losalamosans (Gastil & Jenkins-Smith, 1998).

Deliberation and Public Opinion toward LANL

Without sustained public deliberation, simplistic heuristic processes shape most people's opinions (Fishkin, 1997; Gastil, 2000; Zaller, 1992). Gastil and Jenkins-Smith (1998) found that

northern New Mexicans' views about the Lab are shaped by their demographics, their political awareness, and their general political ideology, and this suggests that there has been only limited deliberation on the role of LANL in northern New Mexico. Referring to the three previously hypothesized impacts of deliberation, this climate is one in which the public's views of LANL are likely to be based on an incomplete understanding of relevant facts, characterized by haphazard or even inconsistent beliefs, and replete with misperceptions of the views of other members of the public.

Even if deliberation is infrequent during the larger public process regarding LANL's role in northern New Mexico, it is nonetheless likely that *some* citizens, *some* of the time, do participate in balanced conversations and public meetings on the subject. There have been numerous public gatherings pertaining to LANL in a variety of settings and formats over the years, and the political history of the region has developed a culture rich in conversation about current affairs. Thus, it is possible to compare the knowledge, attitude integration, and levels of misperception of those who have participated in balanced conversations and public meetings with those who have not. In addition, these comparisons can be made across the diverse political-cultural groups described earlier—the Losalamosans, the Traditionals, and the Santa Fe Anglos.

In sum, this study presents surveys of northern New Mexico residents, as well as a separate sample of LANL employees, that address the following three questions:

1. What is the relative frequency of participation in conversations and public meetings on the role of LANL, and is one or the other of these venues less likely to involve domineering behavior?
2. Is participation in balanced conversations and public meetings about LANL associated with high levels of relevant knowledge? I hypothesize that some discussion is better than none but that more deliberative (balanced) discussion is likely to be associated with

higher knowledge about the effects of radiation—a common concern of both the Lab's supporters and detractors.

3. Are deliberative conversations or attendance at balanced public meetings associated with a more accurate understanding of how the larger public perceives the Lab?

Method

Participants

The data presented herein come from two separate surveys conducted by the Institute for Public Policy (IPP) in 1997. (Both of these samples provided sufficient statistical power for all the tests presented below. For both power estimates and all statistical tests, the significance level was set at alpha = .05.)

The public telephone survey interviewed randomly-selected adults within households in each of three counties—Los Alamos (N = 340), Rio Arriba (N = 333), and Santa Fe (N = 321). Interviews were conducted using random-digit-dialing and MaCATI software for computer-assisted interviewing. The survey had a response rate of 60% and yielded a sample demographically representative of the targeted counties.

Though the analyses presented below refer primarily to the phone survey of the general public, it was also necessary to include data from a survey of LANL employees. To interview LANL employees, a companion mail survey was conducted using the LANL employee database. Sixty-five percent of eligible respondents returned a usable survey. The 761 respondents who completed the mail survey were very similar to the full sample of 1171 employees (31% female, 71% Anglo, and 48% in the Technical Staff classification).

Measures

Relevant questionnaire items were embedded within a larger questionnaire that asked a variety of questions about attitudes, experiences, and demographics relevant to LANL and other aspects of northern New Mexico. Where not specified below, responses were recorded on a scale from 1 ("strongly disagree") to 4 ("strongly agree").

Cultural group. Demographic questions from the survey were used to categorize respondents into three mutually-exclusive (but not exhaustive subgroups. First, if a respondent was a LANL employee or resident of Los Alamos County, s/he was categorized as a "Losalamosan." If not falling into this category, a respondent was labeled "Santa Fe Anglos" if s/he was self-identified as White, non-Hispanic and a resident of Santa Fe County. Finally, the remaining respondents were categorized as "Traditional" if born in northern New Mexico.

The frequency and balance of conversations and public meeting attendance. Deliberation is a complex and nuanced process that involves the thoughtful exchange of information, ideas, and perspectives on public issues. It may be possible to measure precisely the extent to which a given public meeting or discussion is deliberative, but in a public opinion survey, such measurement is impossible due to the reliance on self-report data, the limitations of respondents' memories of events, and the need for brevity in a survey already measuring many other variables.

Given these limitations, very rough indicators were used to measure the extent to which northern New Mexicans had engaged in balanced discussion of the Lab's activities and management. The questions focused on two potential venues for deliberation—informal conversations and public meetings. First, interviewers asked questions about the frequency with which respondents engaged in these kinds of discussions: "In recent years, have you had informal conversations about the Lab with other people—such as friends, family, or others—

frequently, occasionally, rarely, or never?"; and "In recent years, have you attended public meetings or group discussions about the Lab frequently, occasionally, rarely, or never?"

Those who had engaged in conversations or attended meetings were asked a follow-up question that addressed the character of their discussions. As explained earlier, a critical aspect of deliberation is that no single viewpoint dominates the discussion. A majority of participants may hold a particular view, but if they wish to take part in a reflective, open, and respectful dialogue, the majority (or vocal minority, for that matter) does not drown out the other voices that need to be heard (Pearce & Littlejohn, 1997). To measure the presence or absence of such discursive domination, interviewers asked the following two questions:

> *Conversation Item*: "When people engage in conversations, sometimes they are dominated by people who talk too much and interrupt others who try to speak. On average, were your conversations about the Lab dominated by people favorable toward the Lab, dominated by people unfavorable toward the Lab, or did no one dominate those conversations?"
>
> *Public Meeting Item*: "Sometimes public meetings or group discussions are dominated by people who take up all the meeting time and don't let others speak. In general, were the public meetings you attended dominated by people favorable toward the Lab, dominated by people unfavorable toward the Lab, or did no group dominate the meeting?"

Radiation knowledge. Because many of LANL's projects are known to involve radioactive materials, interviewers asked respondents about the effects of radiation. Interviewers read three statements, in random order, and asked respondents if they thought each statement was "definitely true, probably true, probably false, or definitely false." The statements read: "Since the detonation of the first atomic bomb, man-made radiation is known to have resulted in new

species of plants and animals;" "Even if the dose is the same, man-made radiation is more toxic to humans than naturally-occurring radiation;" "The human body has the capability to repair tissue damage caused by exposure to radiation."[1]

Answers to these three questions were combined into a single radiation knowledge index. For each of the first two questions, an answer of "probably false" or "definitely false" was given a score of one (i.e., correct), with all other answers (including "don't know") coded as zero (i.e., incorrect). For the third question, "probably true" or "definitely true" responses received scores of one, with all other answers coded as zero. A respondent's total score on the radiation knowledge index was the sum of these three scores, with the lowest possible knowledge score being zero and the highest being three.

Using this index, all three cultural groups had statistically different average radiation knowledge scores. On average, Traditionals gave one correct answer (M = .98), and Santa Fe Anglos averaged a score of 1.30, which was just below the 1.50 correct answers one would expect due to chance. By contrast, the Losalamosans had a mean score of 1.98, meaning that they averaged two correct answers per respondent.

Attitude consistency. To measure the cognitive integration of related beliefs, the correlations among a trio of separately-developed three-item scales were examined. The first scale measured faith in science (e.g., "The delicate balance of nature is too complex for science to understand," reversed). The second measured overall approval of Lab programs (e.g., "LANL's decisions are generally in the public's best interest"). The third scale measured the perceived responsiveness of the Lab to public concerns (e.g., "LANL has listened and responded to community concerns"). (For details on the scales, see Gastil & Jenkins-Smith, 1998.)

Misperception. To determine whether conversations and meetings diminished the frequency of misperceptions of other groups, a series of questions were posed to the general

public and Lab employees. The first set of questions concerned overall favorability toward the Lab. Both the general public and Lab employees were asked, “In general, what do you think of Los Alamos National Lab? Are your views: very favorable, somewhat favorable, somewhat unfavorable, or very unfavorable?” Later in their respective surveys, the public and employees were both asked the following questions: “Among residents of Los Alamos, Santa Fe, and Rio Arriba counties, would you guess that the *average resident's* view of the Lab is very favorable, somewhat favorable, somewhat unfavorable, or very unfavorable?”; and “Would you guess that the *average LANL employee’s* view of the Lab is very favorable, somewhat favorable, somewhat unfavorable, or very unfavorable?”

Using these questions, misperception was defined as the degree of inaccuracy in one’s estimation of others’ views. On a scale from 1 (“very unfavorable”) to 4 (“very favorable”), the mean favorability rating given by the general public was 2.9, and the mean given by employees was 3.4. Misperception of the public view was defined as the absolute value of one’s estimation of the public’s view minus the public’s actual average favorability rating. For example, if a respondent guessed that the public view was “very unfavorable,” that respondent would receive a misperception score of $| 2.9 - 1 | = 1.9$. The same formula was used for misperceptions of employees’ views. These two scores are called public favorability misperception and employee favorability misperception measures, respectively.

A third measure used was the degree to which respondents inaccurately estimated employees’ respect for public opinion regarding the Lab. Lab employees and the general public were asked, “Do you think that the *average LANL employee* would agree or disagree with this statement: ‘Northern New Mexicans hold well-informed and reasonable views of Los Alamos National Laboratory.’ ” In addition, Lab employees were asked individually whether they agreed or disagreed with the same statement, and 74% disagreed with it. This result was used as the

basis for an employee respect misperception scale: a misperception (i.e., a guess that employees would disagree with the above statement) was given a score of one, and correct guesses were given zeros.

The overall scores for these three misperception scales did not vary dramatically across the three northern New Mexico cultural groups. A majority of Losalamosans (51%) and Traditionals (53%) correctly guessed that the northern New Mexico public, on average, was "somewhat favorable" toward the Lab, and a plurality (43%) of Santa Fe Anglos made the same guess. Fifty-five percent of both Santa Fe Anglos and Traditionals and 54% of Losalamosans also correctly estimated that Lab employees were also "somewhat favorable" toward the Lab. The only clear difference was with regard to the misperception of Lab employees' respect for northern New Mexicans' views of the Lab: 71% of Santa Fe Anglos and 62% of Losalamosans correctly guessed that the average Lab employee would disagree with the statement, "Northern New Mexicans hold well-informed and reasonable views of Los Alamos National Laboratory." By contrast, almost half (49%) of the Traditionals surveyed incorrectly guessed that LANL employees would agree with the statement.

Results

Frequencies and Balance of Conversations and Meetings

Forty-three percent of Losalamosans said they engaged in conversations about the Lab frequently, and another 43% said they did so occasionally. Fifty-percent of Santa Fe Anglos said they had conversations about the Lab occasionally, as did a plurality (38%) of Traditionals. The same pattern was apparent for public meetings: 72% of Traditionals, 68% of Santa Fe Anglos, and only 50% of Losalamosans said they had never attended a public meeting on LANL.

Table 1 shows that a majority of all three groups perceived their conversations as relatively balanced, though 45% of Traditionals (compared to 26% of Losalamosans and 28% of

Santa Fe Anglos) reported that one or another view had dominated the conversations in which they participated. The results are very different for public meetings. Only a majority (58%) of Santa Fe Anglos viewed these meetings as balanced; a majority (53%) of Losalamosans said that Lab critics dominated the meetings they attended, and 64% of Traditionals said that one view or another dominated.

Table 1

Perception of Deliberation During Conversations and Public Meetings about Los Alamos National Laboratory for Three Cultural Groups

Perception of Conversations	Traditionals	Losala-mosans	Santa Fe Anglos
No one dominated	55%	74%	71%
Dominated by those favoring Lab	24%	15%	3%
Dominated by those opposing Lab	21%	11%	25%
Totals	100%	100%	100%
Perception of Public Meetings			
No one dominated	36%	38%	58%
Dominated by those favoring Lab	26%	9%	8%
Dominated by those opposing Lab	38%	53%	34%
Totals	100%	100%	100%

Note. Those respondents who said they "never" engaged in conversations about the Lab were not asked how they perceived those nonexistent conversations, and those who had

never attended a public meeting were not asked whether a particular viewpoint predominated at the meetings they did not attend.

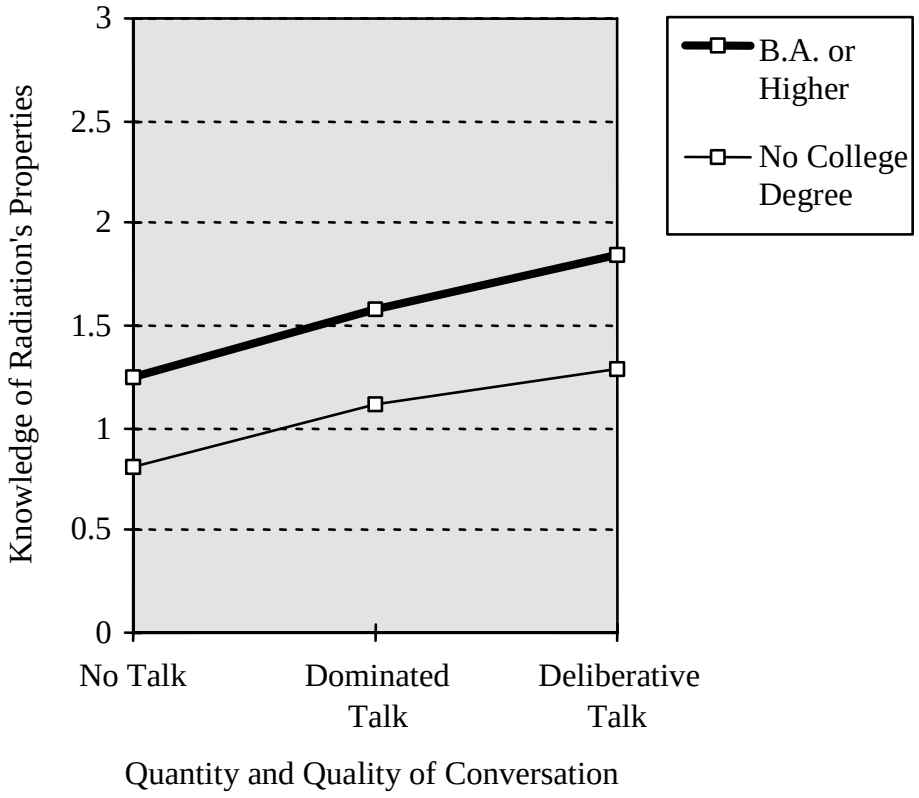
Knowledge of Radiation's Effects on Humans

The first hypothesized relationship was between discussion balance and knowledge about the effects of radiation. For a random sample of northern New Mexicans,[2] the average score on the radiation knowledge index for those who had not engaged in any conversations about LANL was 1.0 (i.e., one correct answer out of three possible). For those who had engaged in conversations that were usually dominated by one view or another, the average was 1.1, and for those who engaged in deliberative conversations, the mean was 1.4. The mean score for the deliberative group was statistically different than the other two average scores, and this general pattern of mean scores was the same for all three cultural groups.

It was possible that another moderator variable was actually responsible for these differences in radiation knowledge. Respondents' level of formal education was positively and significantly correlated with both conversational frequency (r = .30) and having relatively balanced conversations (r = .11). Were these correlations with educational attainment the reason for the aforementioned differences in radiation knowledge? Figure 1 shows that the differences were not due to the indirect influence of education: for respondents with and without college degrees, there is an increase in knowledge of radiation as one moves from the group of respondents who engaged in no conversation about the Lab, to those who engaged in conversations dominated by one point of view, to those that were deliberative. Note, for example, that those without a college degree but who had engaged in deliberative conversations about the Lab had the same average radiation knowledge score (M = 1.3) as those with a college degree who had never engaged in such conversations.

Figure 1

Relationships among Talk about the Lab, Educational Level, and Knowledge of Radiation's Properties



Public meetings appeared to have a similar association with radiation knowledge. For a random sample of northern New Mexicans, the average score on the radiation knowledge index for those who had not attended any public meetings about LANL was 1.2. For those who had attended meetings that were usually dominated by one group or another, the average was 1.4, and for those who participated in balanced discussions, the mean was 1.5. For the random sample, only the difference between the first and third means was significant, meaning that those who had attended deliberative public meetings had greater knowledge of radiation's properties than those who had never attended a public meeting.

The pattern of means was the same for Traditionals and Santa Fe Anglos, but the Losalamosans with the highest radiation knowledge scores were those that had attended public meetings they perceived to be dominated by one view or another.[3] The peculiar Losalamosan pattern, however, may be linked by the extreme tendency for that group to perceive public meetings as dominated by critics of the Lab.

Integration of Related Beliefs

The survey of northern New Mexicans did not support the claim that deliberative discussions were associated with greater attitude integration. At first glance, it might appear that conversations themselves correlated with more integrated beliefs: The average correlation among the four scales was higher for those participating in balanced (average $r = .54$) and unbalanced (average $r = .53$) conversations about the Lab than for those who did not engage in such discussions (average $r = .34$). That association, however, did not hold up when controlling for political awareness, which was positively associated with having conversations about the Lab—deliberative or otherwise.[4]

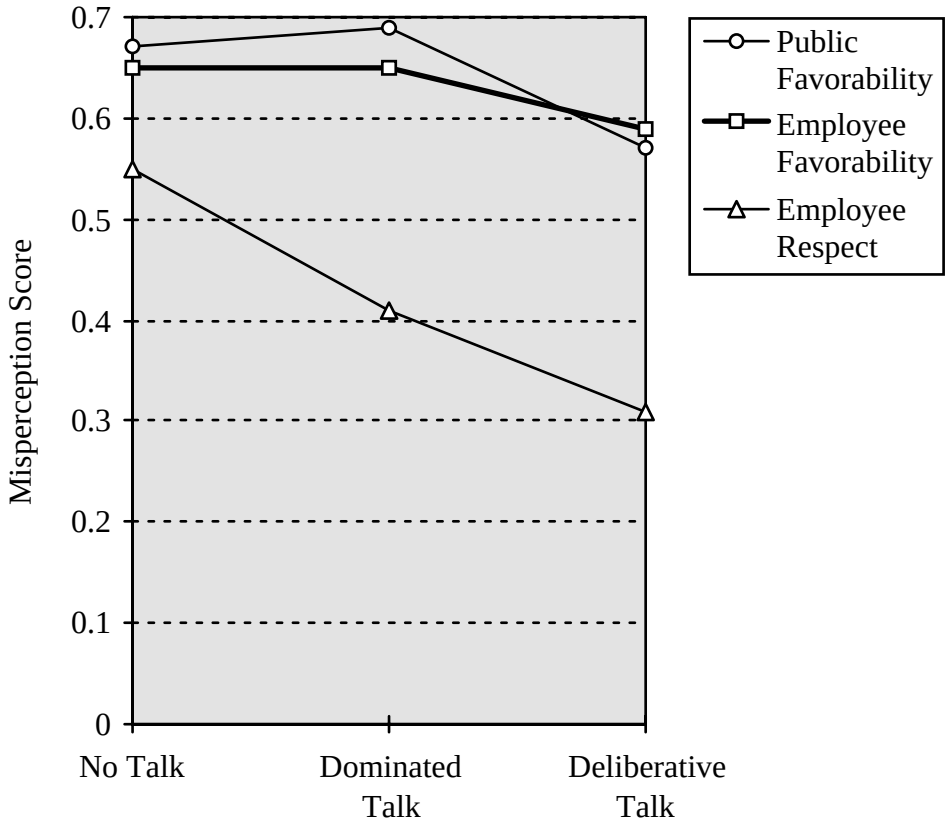
For public meetings, there was also a significant difference in the average correlation among the scales for attendees versus non-attendees. For the full sample, non-attendees had an average $r = .46$, whereas those attending dominated meetings had an average $r = .57$ and those attending balanced meetings had an average $r = .60$. The same general difference was also apparent for people with both low and high political awareness, so it did not appear that this relationship was caused by the positive association between political awareness and public meeting attendance. Nevertheless, the hypothesized difference between those who attended balanced versus unbalanced meetings was not found.

Misperceptions of Public Opinion

Figure 2 shows that for all three misperception scales, the average score for northern New Mexicans who had engaged in balanced conversations was lower than for other groups. Those who participated in more balanced conversations had lower misperceptions of public favorability toward the Lab (M = .57) than did those who engaged in non-deliberative ones (M = .69), and the same was true for misperceptions of employee favorability (balanced M = .59, dominated M = .65). Average misperceptions of employee respect were higher for those without conversations (M = .55) than for those who had engaged in dominated (M = .41) or balanced (M = .31) ones, though the difference between the latter two groups did not reach statistical significance.

Figure 2

Relationship between Talk about the Lab and Misperceptions of Public Favorability toward the lab, LANL Employee Favorability toward the Lab, and LANL Employee Respect for Northern New Mexicans' Views of the Lab



Was there the same pattern of results among LANL employees, who talk about the Laboratory constantly? Twenty-six percent of Lab employees said that they "frequently" have "informal conversations about the Lab outside of work," and only 2% said they never had such conversations. On average, Lab employees also said that roughly 30% of their conversations about the Lab outside of work were with people other than their colleagues. The vast majority (72%) of Lab employees said that these conversations were not dominated by a person or group of people expressing a particular view of the Lab, though 18% said Lab critics usually dominated their conversations outside of work, and 10% said Lab advocates did so.

Because so few employees "never" talk about the Lab (n = 18), it was only possible to compare the misperceptions of those who engaged in deliberative versus dominated conversations. Those who engaged in deliberative conversations had lower misperceptions of public favorability (*M* = .38) than those whose conversations were usually dominated by one view or another (*M* = .47). The same difference was apparent for misperceptions of employee favorability (*M*s = .52 and .63, respectively). There was no statistically significant difference, however, with regard to misperception of employee respect for northern New Mexicans' views of the Lab.

The same relationship *did not* appear with regard to public meetings. Misperceptions of both public and employee favorability toward the Lab were unaffected by participation in public meetings, regardless of whether they were balanced.

The misperception of employee respect for the opinions of northern New Mexicans was associated with meeting participation, though not always as predicted. Santa Fe Anglos, regardless of their meeting attendance history, uniformly had the lowest misperception of Lab employee respect for public opinion on the Lab; they had a pretty good idea of what Lab workers thought on that subject. This was not true for Losalamosans and Traditionals: in those groups,

respondents who reported attending public meetings that *were* dominated by one view or another had more accurate views than their counterparts. For Traditionals, misperception among those who attended non-deliberative public meetings on LANL (M = .33) was lower than it was for either non-attendees (M = .51) or those who went to deliberative meetings (M = .62). For Losalamosans, the means were .28, .41, and .46, respectively, though the difference between nonattendance and non-deliberative meeting attendance did not reach statistical significance.

This result necessitated further exploration. Recall that the unbalanced discussion respondents included both those who said the meetings they had attended were "usually dominated by those favoring the Lab" *or* by "those unfavorable toward the Lab." As it turned out, the *type* of imbalance was an important consideration. Imagine a meeting dominated by the Lab's critics, where "dominated" is defined as 'taking up all the meeting time and not letting others speak' (the words used in the survey question). It seems likely that Lab employees in attendance would appear visibly upset or at least dismayed by the views of their critics, and a casual observer would be able to infer a decline in Lab employees' respect for the public opinions about the Lab. If so, then one would expect that attendees of meetings dominated by Lab critics might become less likely to say in a survey, weeks or months later, that the average Lab employee would agree that "northern New Mexicans hold well-informed and reasonable view of Los Alamos National Laboratory."

Examination of the data showed precisely this result. For the random sample, attendees of anti-Lab dominated meetings had lower misperceptions of employee respect for public opinion (M = .23) than did those attending pro-Lab dominated meetings (M = .50) or deliberative meetings (M = .43).[5] In other words, it appears that *a northern New Mexican who attends a meeting dominated by the Lab's critics comes away less likely to believe that Lab employees respect the views of northern New Mexicans.*

It is possible to test this interpretation of the data in another way. If people's observations of public meetings influence their estimation of Lab employees' respect for public opinion, might it also influence their *own* views of the public? If an observer sees fellow citizens 'taking up all the meeting time and not letting others speak,' it should cause them to doubt the reasonableness of public opinion. Consistent with this view, those who attended meetings dominated by Lab critics were less willing to agree with the statement, "Northern New Mexicans hold well-informed and reasonable views of Los Alamos National Laboratory," than were those who attended no such meetings: Mean agreement scores were 2.3 (never attended), 2.1 (attended meetings dominated by Lab critics), and 2.4 (attended meetings dominated by Lab supporters). (The lowest mean was significantly different from the other two, but the comparison between the first and third groups was not significant, $p = .053$).

Was this odd result also apparent in the Lab employee survey? Sixty-three percent of Lab employees had not attended a public meeting or group discussion about the Lab in recent years. Only 3% attended such gatherings "frequently," 14% did so "occasionally," and 20% "rarely" went to such meetings. Exactly two-thirds of those who had attended at least one such gathering said that public meetings about the Lab tended to be dominated by Lab critics. Another 26% said such meetings were dominated by no particular view, and only 7% said that the meetings tended to be dominated by those favoring the Lab.

As was the case for the northern New Mexico public, employee misperceptions of both public and employee favorability toward the Lab were unmoved by participation in public meetings, be they deliberative or non-deliberative. In addition, those employees attending deliberative meetings appeared to become deluded in their estimation of their fellow employees' respect for public opinion. Those attending deliberative meetings had significantly greater average misperception of employee respect for the public's views toward the Lab ($M = .44$) than

did those attending non-deliberative meetings (M = .21) or no meetings whatsoever (M = .26). Moreover, meeting attendance also reduced employees' own estimation of the reasonableness of the public's views toward the Lab: Mean agreement scores with the statement, "Northern New Mexicans hold well-informed and reasonable views of Los Alamos National Laboratory," were 2.3 (never attended), 2.1 (attended meetings dominated by Lab critics), and 2.1 (attended meetings dominated by Lab supporters). (Only the difference between the first and second mean was statistically significant. The difference between the first and third mean was the same size; however, there were only 23 respondents in the third group, and it did not reach significance, p = .058.)

Conclusion

The Distribution of Deliberation

We have only begun to estimate the frequency of public participation in quasi-deliberative conversations and meetings (e.g., Jacobs et al., 2004). When operationalized simply as *balanced* conversations and public meetings in the present political-cultural setting, a modicum of deliberation occurs with some regularity, though its frequency varies across different cultural groups. The vast majority of Losalamosans, all of whom work at the Lab and/or live nearby, had discussed the Lab in conversations, and half had attended meetings regarding LANL. By contrast, only half of the Santa Fe Anglos and Traditionals took part in such conversations, and roughly 30% attended meetings. Though all of these groups have a stake in the Lab's fortunes, the Losalamosans may have perceived the Lab as a more important part of their lives and, consequently, discussed it more frequently.

The more striking difference was in how the three groups perceived the deliberative quality of the conversations they joined and the meetings they attended. For Losalamosans and Santa Fe Anglos, roughly three-quarters of their conversations were rated as deliberative,

whereas nearly half the conversations recollected by Traditionals were dominated by either Lab opponents or supporters. Of those talks that were unbalanced, only the Santa Fe Anglos saw one side as more likely to dominate, with the Lab's opponents eight times more likely to dominate than be dominated during their conversations.

The pattern was quite different for public meetings, which Traditionals and Losalamosans recalled as being dominated by one side of the other nearly two-thirds of the time. Santa Fe Anglos, by contrast, thought the majority were balanced. All three groups thought that Lab opponents were more likely to dominate public meetings, but the Traditionals recalled meetings being dominated by Lab supporters three times as often as did members of the other groups.

Taken together, these findings permit at least two general inferences. First, different subgroups of the public are likely to perceive different levels of opportunity for balanced conversations and public meetings. Traditionals reported the lowest percentages of balanced conversation and public meetings, and this may have a mutually-reinforcing relationship with their lower rates of participation in conversations and meetings about the Lab. Patterns such as this are likely to be found in other contexts, as well, and efforts to promote deliberation should be sensitive to the challenges of recruiting participants from groups that have had less experience with deliberative forums and conversations on the matter at hand.

Second, it is likely that unstructured conversations are generally more balanced than typical public hearings, forums, and meetings. This not only underscores the value of conversation in the democratic process, it also suggests that *deliberative forum organizers might be able to appeal to conversational norms when teaching how to engage in group deliberation*.

Knowledge and Belief Integration

As for the associations between deliberative balance and the cognitive variables measured herein, the clearest relationship was with knowledge. Talking about the Lab and

attending public meetings was associated with greater understanding of at least one set of basic facts relevant to Lab operations—the effect of radiation on humans and the environment. Those who engaged in relatively balanced talks and discussions appeared to have an even firmer grasp of such facts. When respondents were divided into different groups according to their level of education, the same pattern held true for both those with and without college degrees. Because the data presented herein are cross-sectional, it is impossible to test whether these associations are causal relationships, but previous longitudinal and experimental research (e.g., Cappella et al., 2002; Fishkin & Luskin, 1999; Gastil & Dillard, 1999b; Gastil et al., 2002) suggests that the relationships observed herein may, indeed, reflect the impact of deliberation on participants. If so, this study reinforces the finding reported by Gastil and Dillard (1999) that *deliberation's cognitive effects occur both for people with lower and higher levels of formal education.*

With regard to the integration of ideologically similar beliefs, the important question was whether one had engaged in conversation or public meetings—not the character of those discussions. For both conversations and public meetings, the non-participants had lower cognitive integration than did the participants, and there were no significant differences between those who partook of balanced versus unbalanced discussions. This association could have been spurious, as political awareness could have been influencing simultaneously both participation and integration. When awareness was controlled for, however, the differences remained significant for public meeting participation. The finding that both balanced and unbalanced discussions have an association with belief integration is consistent with the notion that *belief integration simply requires exposure to a sufficient number of ideological cues*. A strict version of Zaller's (1992) model of public opinion might hold that people working toward ideological consistency need to receive *ideologically-similar* cues because the opposite cues are simply

filtered out. These data suggest, however, that hearing the opposite view during a discussion can also reinforce (and make more consistent) one's own views.

Deliberation and Misperception

The relationships between discussions and misperceptions were the most complex. The most straightforward finding was that for the random sample of northern New Mexicans, those engaging in balanced conversation had lower misperception levels than did conversational non-participants and those who participated in unbalanced conversations. In the sample of LANL employees, however, discursive balance was the key variable. Nearly all the employees reported talking about the Lab, so were too few non-conversationalists to treat them as a comparison group. Employees as a whole, though, were more likely to correctly estimate both the public's and their fellow employees' favorability to the lab if they had participated in *balanced* conversations than if they had taken part in unbalanced ones.

Public meeting participation influenced neither the public's nor the Lab employees' perceptions of one another's favorability toward the Lab, but there was an interesting pattern of results regarding perceived Lab employee *respect* for the public's views. Recalling that nearly three-quarters of Lab employees disagreed with the claim that "northern New Mexicans hold well-informed and reasonable views" toward LANL, an accurate perception would be that the average Lab employee *does not* hold in high regard the public's views on the Lab. Given this fact, it is easier to understand why attending unbalanced public meetings at which opponents railed against the Lab would cause one to develop a more accurate perception of the average Lab employee's low esteem for the northern New Mexican public's opinion of LANL. Santa Fe Anglos were well aware (regardless of their forum attendance) that most Lab employees held a low opinion of the public's views on this issue, but both Traditionals and Losalamosans came to know this only once they attended unbalanced public meetings.

By contrast, Traditionals and Losalamosans who attended relatively *balanced* meetings had the highest misperception levels—perhaps being misled by the relatively respectful tone of those forums. This effect was even stronger for Lab employees: if they attended a balanced forum, they were roughly twice as likely to guess (incorrectly) that the average employee held in high esteem the public's opinion of the Lab. For all of these New Mexicans, seeing Lab employees and average citizens engage in balanced public discussions of LANL misled attendees into believing that LANL employees respected the public's opinion on the Lab.

Implications

These findings all have limitations, particularly the cross-sectional nature of the self-report data reported herein. At the same time, this study has three features that researchers should consider including in future studies of deliberation. First, when comparing the deliberative experiences of multiple individuals (even within a single event, let alone across different conversations and forums), it is preferable to employ some measure of the degree to which they *subjectively experienced* the different aspects of deliberation. Second, deliberation is likely to have effects beyond those commonly attributed to it. Researchers should note the unique features of each research context and consider what distinct deliberative impacts might be likely to surface in such settings. Third, it can be fruitful to study deliberation outside the rarefied atmosphere of carefully constructed forums. The success of deliberative activities such as Televotes, which give participants relatively private and unstructured deliberative opportunities (Becker & Slaton, 2000), suggests that such settings may prove as valuable as the more aggressively engineered methods of deliberation. But it would be fruitful to apply the concepts of deliberation to even more informal communication events, such as political conversations (Walsh, 2004). If one deploys even a modest operationalization of deliberation, it becomes possible to explore everyday events and observe variations in the degree of deliberative

exchange. This might lead to the discovery of a deliberative threshold—the minimum level of deliberative talk required for an event to prove worthwhile, in terms of the effects discussed herein. It might also lead to a more rigorous appraisal of the extent to which deliberative opportunities abound.

Finally, the New Mexico case has two important implications for the practice of public deliberation. If this study is any indication, deliberation is more scarce for some sub-publics than others, and it is likely that the deliberative experience is least common for those who need it most. There are some high-quality deliberative experiences already available for the general public, such as the opportunity to serve on a criminal trial. But just as those most in need of the civic spark that jury service can provide are the least likely to serve on a jury (Gastil et al., 2002), so may the most disenfranchised be the least likely to seek and find rewarding deliberative experiences in conversations and public forums. If this possibility is not vigorously investigated and understood, *efforts to promote deliberative civic education may have the unfortunate effect of widening the gap between the politically engaged and the politically disengaged*.

This study also underscores the tremendous value of deliberation as a means of building an informed and self-aware public. In the absence of deliberation, ignorance, incoherence, and misperception make public opinion less potent. Policymakers can discount unenlightened views as being only what a misinformed, inconsistent, and deluded public believes. Undeveloped opinions also hamstring the public because it is harder to argue persuasively when one's views are not based on solid information, have not been thought through carefully, and are skewed by misperceptions of the larger public. Officials interested in working with the public to pursue bold, potentially controversial initiatives would greatly benefit from a civic culture that promotes balanced conversations and public meetings because such micro-deliberative processes could help to build a public that understands the issue and understands *itself*.

Endnotes

[1]The first statement is false in that radiation has not created entirely new species, despite the frequent promises of such creatures in 1950s popular cinema. The second statement is also inaccurate because the dosage and type of radiation are the key determinants of harm from radiation exposure; natural radiation in equivalent doses is just as hazardous as radiation that comes from industrial sources. The third statement is true, as anyone who has recovered from a sunburn can attest.

[2]To create the random sample, cases were randomly deleted for Los Alamos and Rio Arriba Counties to create county subsamples proportionate to their share of the tri-county population. Thus, in the full sample, each of those counties had roughly the same number of respondents as Santa Fe County, but in the random sample (N = 496), Santa Fe County accounts for 65% of respondents, Rio Arriba County accounts for 20%, and Los Alamos County makes up 15% of the sample. The random sample was used whenever it was necessary to report average scores for northern New Mexicans as a whole.

[3]For Losalamosans, the "dominated" group had a significantly higher mean radiation knowledge than either of the other two groups. There were no significant differences among Santa Fe Anglo means, and for Traditionals, the "deliberative" group had a higher mean than either of the other two groups.

[4]The survey did not include a standard measure of political awareness, so one was assembled that combines different indirect indicators into a single index of awareness. Each item in this index is given equal weight, and a survey respondent's awareness score is determined by combining these scores. Of the questions included in the IPP surveys of northern New Mexico, four appeared most closely related to political awareness: 1) formal education, 2) voter registration, 3) self-reported familiarity with the Lab, and 4) primary news source. A respondent scored one point on the index for each of the following attributes: having at least a college degree, being registered to vote, being at least "somewhat familiar" with the activities of the Lab, and relying on newspapers, radio, or magazines as his or her primary source of "local and state news." A score of zero, for instance, would be given to a respondent who had never graduated from college, was unregistered, was unfamiliar with Lab operations, and relied on television (or nothing at all) as a primary source of state and local news. When it was necessary to dichotomize this scale, scores of zero, one, or two were coded as low political awareness and higher scores were taken to indicate relatively high awareness.

[5]Breaking these results down by cultural groups, the contrast between the first and second groups was significant for Traditionals and Losalamosans, but not Santa Fe Anglos. The latter group, though, had lower misperception scores for those attending anti-Lab dominated meetings than those attending pro-Lab dominated meetings.

References

Abramowitz, A. I., & Saunders, K. L. (1998). Ideological realignment in the U.S. electorate. *Journal of Politics, 60*, 634-652.

Anderson, K. J., & Leaper, C. (1997). Meta-analyses of gender effects on conversational interruption: Who, what, when, where, and how. *Sex Roles, 35*, 225-252.

Becker, T., & Slaton, C. (2000). *The future of teledemocracy.* New York: Prager.

Burkhalter, S., Gastil, J., & Kelshaw, T. (2002). *The self-reinforcing model of public deliberation.* Communication Theory, 12, 1-25.

Cappella, J. N., Price, V., & Nir, L. (2002). Argument repertoire as a reliable and valid measure of opinion quality: Electronic dialogue during campaign 2000. *Political Communication, 19*, 73-93.

Delli Carpini, M. X., Cook, F. L., & Jacobs, L. R. (2004). Public deliberation, discursive participation, and citizen engagement: A review of the empirical literature. *Annual Review of Political Science, 7*, 315-44.

Denver, D., Hands, G., & Jones, B. (1995). Fishkin and the deliberative opinion poll: Lessons from a study of the Granada 500 television program. *Political Communication, 12*, 147-156.

Derber, C. (1979). *The pursuit of attention: Power and individualism in everyday life*. Oxford: Oxford University Press.

Eveland, W. P., McLeod, D. M., & Signorielli, N. (1995). Actual and perceived U.S. public opinion: The spiral of silence during the Persian Gulf War. *International Journal of Public Opinion Research, 7*, 91-109.

Farrar, C., Fishkin, J. S., Green, D. P., List, C., Luskin, R. C., & Paluck, E. L. (September, 2003). Experimenting with Deliberative Democracy: Effects on Policy Preferences and Social Choice, Paper presented at the ECPR conference in Marburg, Germany. Available at: http://cdd.stanford.edu/research/papers/2003/experimenting.pdf.

Fishkin, J. S. (1997). *The voice of the people: Public opinion and democracy*. New Haven, CT: Yale University Press.

Fishkin, J. S., & Luskin, R. C. (1999). Bringing deliberation to the democratic dialogue. In M. McCombs & A. Reynolds (Eds.), *The poll with a human face: The National Issues Convention experiment in political communication* (pp. 3-38). Mahwah, NJ: Erlbaum.

Garcia, F. C. (1994). New Mexico: The setting. In P. L. Hain, F. C. Garcia, and G. St. Clair (eds.), *New Mexico Government* (3rd ed.) (pp. 1-18). Albuquerque, NM: University of New Mexico Press.

Gastil, J. (1993). *Democracy in small groups: Participation, decision making, and communication*. Philadelphia: New Society Publishers.

Gastil, J. (2000). *By popular demand: Revitalizing representative democracy through deliberative elections*. Berkeley: University of California Press.

Gastil, J. (2004). Adult civic education through the National Issues Forums: A study of how adults develop civic skills and dispositions through public deliberation. *Adult Education Quarterly, 54*, 308-328.

Gastil, J., Deess, E. P., & Weiser, P. J. (2002). Civic awakening in the jury room: A test of the connection between jury deliberation and political participation. *Journal of Politics, 64*, 585-595.

Gastil, J., & Dillard, J. P. (1999). Increasing political sophistication through public deliberation. *Political Communication, 16*, 3-23.

Gastil, J., & Jenkins-Smith, H. (1998). *The attitudes and beliefs of Los Alamos National Laboratory (LANL) employees and Northern New Mexicans: A study of the interplay of culture, ideology, political awareness, and public deliberation.* Albuquerque, NM: University of New Mexico Institute for Public Policy.

Gastil, J., Jenkins-Smith, H., & St. Clair, G. (2002). Beyond green chiles and coyotes: The changing shape of New Mexico's political-cultural regions from 1967 to 1997. *New Mexico Historical Review, 77*, 173-195.

Gastil, J., & Levine, P. (Eds.) (2005). *The deliberative democracy handbook: Strategies for effective civic engagement in the twenty-first century.* San Francisco, CA: Jossey Bass.

Hansen, K. M., & Andersen, V. N. (2004). Deliberative democracy and the Deliberative Poll on the Euro. *Scandinavian Political Studies, 27*, 261-286.

Holmes, J. (1967). *Politics in New Mexico*. Albuquerque, NM: University of New Mexico Press.

Huckfeldt, R., & Sprague, J. (1995). *Citizens, politics, and social communication: Information and influence in an election campaign*. Cambridge: Cambridge University Press.

Jacobs, L. R., Delli Carpini, M., & Cook, F. L. (2004). *How do Americans deliberate?* Paper delivered at the Midwest Political Science Association Meeting, April 15-19, Chicago.

Kelshaw, T. (2002). *Public meetings and public officials: Officeholders' accounts of participatory and deliberative democratic encounters with citizens.* Doctoral dissertation, University of Washington, Seattle, WA.

Luskin, R. C., Fishkin, J. S., & Jowell, R. (2002). Considered opinions: Deliberative polling in Britain. *British Journal of Political Science, 32*, 455-487.

Mathews, D. (1994). *Politics for people: Finding a responsible public voice*. Chicago: University of Illinois Press.

McLeod, J. M., Scheufele, D. A., Moy, P., Horowitz, E. M., Holbert, R. L., Zhang, W., Subric, S., & Subric, J. (1999). Understanding deliberation: The effects of discussion networks on participation in a public forum. *Communication Research, 26*, 743-774.

Mendelberg, T. (2002). The deliberative citizen: Theory and evidence. *Political Decision Making, Deliberation and Participation, 6*, 151-93.

Mutz, D. C. (1998). *Impersonal influence: How perceptions of mass collectives affect political attitudes*. Cambridge: Cambridge University Press.

Mutz, D. C. (2002). Cross-cutting social networks: Testing democratic theory in practice. *American Political Science Review, 96*, 111-126.

Oswald, M. (1997, May 14). Redmond stuns Serna: GOP candidate pulls big upset in primarily Democratic district. *Santa Fe New Mexican*, p. A1.

Page, B. I. (1996). *Who deliberates? Mass media in modern democracy*. Chicago: University of Chicago Press.

Pearce, W. B., & Littlejohn, S. W. (1997). *Moral conflict: When social worlds collide*. Thousand Oaks, CA: Sage.

Robert, H. M. (1990). Robert's rules of order. Glenview, IL: Scott, Foresman and Co. [Originally published 1876]

Rosenthal, D. (1990). *At the heart of the bomb: The dangerous allure of weapons work*. Reading, MA: Addison-Wesley.

Sando, J. S. (1992). *Pueblo nations: Eight centuries of Pueblo Indian history*. Santa Fe, NM: Clear Light Publishers.

Shroyer, J. A. (1997). *Secret mesa*. New York: John Wiley & Sons.

Simmons, M. (1977). *New Mexico: An interpretive history*. Albuquerque, NM: University of New Mexico Press.

Sturgis, P., Roberts, C., & Allum, N. (2005). A different take on the Deliberative Poll: Information, deliberation, and attitude constraint. *Public Opinion Quarterly*, *69*, 30-65.

Szasz, F. M. (1994). The cultures of modern New Mexico, 1940-1990. In F. C. Garcia (ed.), *Contemporary New Mexico* (pp. 159-200). Albuquerque, NM: University of New Mexico Press.

Walsh, K. C. (2004). *Talking about politics: Informal groups and social identity in American life*. Chicago: University of Chicago Press.

Zaller, J. R. (1992). *The nature and origins of mass opinion*. Cambridge: Cambridge University Press.