Does Deliberation Increase Public-Spiritedness?

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Objective. This article investigates the hypothesis, dating back to de Tocqueville and Mill, that deliberation helps make citizens more "public-spirited," increasing their support for policies that benefit the community, even at some possible cost to themselves. The hypothesis has previously occasioned much speculation but little empirical investigation. *Methods.* We employ data from a series of regional Deliberative Polls in Texas, gathering random samples from seven different service areas for weekend-long deliberations about the pros and cons of alternative energy choices. Confidential questionnaires were administered at time of recruitment and at the end of the weekend. *Results.* The participants showed an increased willingness to pay for renewable energy, conservation, and to see to it that everyone's basic needs are met. The contours of these results suggest that they should be taken as evidence of increased public-spiritedness. *Conclusion.* We provide new evidence in support of the venerable hypothesis that deliberation increases public-spiritedness—among deliberation's most important but hitherto least examined effects.

The idea of deliberation's fostering public-spiritedness traces back to Mill's (1861) reactions to de Tocqueville ([1935] 2016), anticipated by still earlier sources (see Mansbridge, 1999a). De Tocqueville described contemporary American institutions of self-government—particularly juries and New England town meetings—in which ordinary citizens took responsibility for the solution of public problems. He wrote: "Town meetings are to liberty what primary schools are to science; they bring it within the people's reach, they teach men how to use and how to enjoy it" (2016:73). Mill, reviewing de Tocqueville, called such discursive institutions "schools of public spirit," noting that it is the process of discussion that stimulates a citizen to "weigh interests not his own" and to consider "the common good." He speculated that variants of this process also characterized the institutions of ancient Athens and, to a lesser degree, those of contemporary England, in the service of ordinary citizens on juries and in parish offices. More generally, he argued that public discussion of policy choices—of a sort now commonly termed as deliberation—may increase the participants' sense of responsibility for solving public problems and their support for policy options they believe to serve the public good.

In a similar vein, citizen participation has long been thought to serve an "educative function" (Pateman, 1970), producing "better" citizens (Mansbridge, 1999a). But this hypothesis, as stated, is too broad to be readily evaluated. What is it about participation that can be expected to change citizens for the "better?" What sort of participation? Must it involve voting? Actually taking part in decisions (Mill, 1861; Mansbridge, 1999a)? Or,

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SOCIAL SCIENCE QUARTERLY

DOI: 10.1111/ssqu.12863

as Mill and de Tocqueville perceived, may serious, balanced, open-minded discussion of policy alternatives play a role? There is also the question of what "better" means? Do "better citizens" have more highly developed capacities for further democratic participation (Pateman, 1970:43)? Are they more tolerant and self-reflective in their role as citizens (Warren, 1993:209)? Can their opinions be justified in "a public way" (Neblo, 2015:180)? This article refines these questions by focusing on a particular effect of this sort: on the extent to which deliberating about policy choices makes citizens, in Mill's term, more "public-spirited."

To be sure, even this more specific effect is hard to document. Here, we avail ourselves of three imperfect but relevant questions asking the participants in a series of deliberative polls (DPs) on electric utility choices in Texas how much more they would be willing to pay to promote energy conservation and to increase the use of renewable energy sources and how important they considered it to see to it that everyone's basic needs are met, even if that meant paying more.

Definitions: Public-Spiritedness and Deliberation

Let us start by considering more closely the concepts of public-spiritedness and deliberation.

Public-Spiritedness

What does it mean to be "public-spirited?" The term applies to orientations—priorities, preferences, or actions—toward policy alternatives. It may be domain-specific: a person may be public-spirited with respect to clean air but not the national defense or vice versa. It may be orientation-specific: a person may be public-spirited, even within a given domain, in priorities but not preferences or actions, and so forth. Or it may be synoptic, describing a trait. In that sense, a person is public-spirited to the extent that he or she tends to be public-spirited, across priorities, preferences, and actions and across policy domains. Let the umbrella term "favoring" cover "adopting" for priorities, "having" for preferences, and "taking" for actions.

As a discrete property, *public-spiritedness* can be defined as favoring what one sees as good for the community *because* one sees it as good for the community or opposing what one sees as bad for the community *because* one sees it as bad for the community. As we will see below, favoring and opposing are not just a matter of having an opinion; they are also a matter of being willing to undertake some action or effort in support of what one favors or opposes. It is intentionally community-serving, intentionally beneficent. Its opposite—something like *maleficence*—is favoring what one sees as bad for the community *because* one sees it as bad for the community or opposing what one sees as good for the community *because* one sees it as good for the community. It is intentionally community-harming. This last may be rare, but two other less than public-spirited possibilities are more common. One is *inadvertent beneficence*: favoring what one sees as good for the community or opposing what one sees as bad for it, but for other reasons, often revolving around one's private interests. The other is *inadvertent maleficence (or selfishness)*: favoring what one sees as bad for the community or opposing what one sees as good for it, but for other reasons, again often revolving around one's private interests.

Though useful for explication, this categorical version is a shade too simple. More realistically, public-spiritedness versus anti-public-spiritedness is a continuum. People may

favor or oppose a given priority, preference, or action more or less strongly, may see it as more or less good or bad for the community, and may have reasons revolving more or less thoroughly around the community's interests. On the positive side of the continuum, public-spiritedness is the extent to which one favors what one sees as good for the community or opposes what one sees as bad for it (*beneficence*), discounted for the extent to which one is doing so for other reasons (*inadvertence*). On the negative side, anti-public-spiritedness is the extent to which one favors what one sees as bad for the community or opposes what one sees as good for it (*maleficence*), discounted (in absolute value) for *inadvertence*. Squarely in the middle are those who neither favor nor oppose a given priority, preference, or action or who see it as neither good nor bad for the community. We have only rough and indirect measures of this variable, but it is useful to be clear about what we have in mind.

The "good of the community" may lie in some "public good," like clean air, indivisibly benefiting the community as a whole.[1] Or it may lie in some allocation of private goods, like homeless shelters or lower corporate taxes, thought to benefit the community as a whole by benefiting a significant proper subset of it. In the first case, the good of the community and the public-spiritedness in favoring policies that serve it are *holistic*; in the second case, they are *distributive*. Holistic public-spiritedness is broadly similar to *public-regardingness* (Wilson and Banfield, 1964) and *sociotropism* (Kinder and Kiewiet, 1981).

The public-spiritedness of supporting a given policy depends on one's *reasons* for doing so. Clean air may benefit everyone, but some may value it primarily for their own health and comfort, not caring much that others reap the same benefits. That is not public-spirited. Executives and stockholders may favor reducing corporate taxes for the sake of their own financial well-being, but also because they believe it will strengthen the economy and create jobs. That may be public-spirited, to the extent that the second rationale outweighs the first.

Reasons are psychological. In reality, increasing reliance on windmills or solar cells may or, conceivably, may not produce cleaner air; reducing corporate taxes may or may not strengthen the economy and create jobs; building more homeless shelters may or may not enhance the community's fairness, safety, or aesthetics. What matters, for public-spiritedness, is what the individual sincerely believes in. By the same token, reasons are generally debatable. Even in the holistic case, not everyone needs to value the same public goods. Some few people may not care much about clean air or the national defense. Some may value some odd, idiosyncratically defined public good most people would not even think of. The premises linking given policies to given public goods also vary. Some people may see a given policy as promoting the national defense, others may not. In the distributive case, both definitions of the community good and the premises linking given policies to it are still more debatable. This variation in reasons means that public-spiritedness cannot be cornered by either the left or the right. Each may value overlapping but different sets of public community-serving private goods. Each may see different policies as conducing to those goods.

Deliberation

Etymologically, "deliberation's" root is *weighing*. In democratic theory, it requires "weighing" competing arguments for policies or candidates in a context of mutually civil

[1]By definition, public goods are "nonexcludable" and "nonrivalrous": they can be used by everyone, and their use by anyone does not diminish their availability to anyone else (Gravelle and Rees, 2004).

and diverse discussion in which people can consider the merits of arguments with good information (Fishkin and Mansbridge, 2017). The weighing could be solo (what Goodin, 2005, calls "deliberation within"), but the broader and more common sense of the term entails *discussion*—where the "dialogue" is not merely internal, and the arguments being weighed include those offered by others, some of which one might not think of oneself (as in, e.g., Fishkin, 1991:35–41; Warren, 1993:218; Mathews, 1994:111). Interpersonal deliberation should stimulate and enrich solo deliberation (and part of its value lies in that role).

Here, accordingly, we take *deliberation* to mean substantive, balanced, and open-minded discussion in which participants voice, listen to, and weigh the merits of competing arguments, sharing diverse perspectives and experiences. It is more elevated and, in practice, more structured than the casual discussions of everyday life. Indeed, it should be recognizable as the ideal at which the jury discussions and town meetings described by de Tocqueville and Mill are aiming. The deliberative character of any discussion may be construed as a variable—a property that any given communicative interaction possesses to a greater or lesser degree. At the far end of this continuum lies a situation in which every argument offered is answered by anyone with a different viewpoint and those arguments are answered in turn with participants weighing all the reasons offered by everyone on the merits.

Such an ideal cannot be fully realized in practice because it presumes virtually unlimited discussion. But it suggests a continuum in terms of the completeness or incompleteness with which the arguments offered are responded to. Such a situation is reminiscent of the famous "ideal speech situation," a "methodological fiction" Habermas applies not just to politics but to all validity claims (Habermas, 1990; and for limitations, see Habermas, 1996:323). Habermas's proposal is a "thought experiment" but there are, he believes, conditions for actual decision procedures that can be realized. Key conditions include exchanges of "inclusive, public" arguments free of external coercion and "free of any internal coercion that could detract from [the participants'] equality. Each [participant] has an equal opportunity to be heard, to introduce topics, to make a contribution, to suggest and criticize proposals." Without distorting factors such as external or internal coercion, the conclusions would ideally be motivated by the "unforced force of the better argument" (Habermas, 1996:305–06).

While Habermas, building on Cohen (1997), sketches some criteria that should be satisfied by actual decision processes, his institutional proposals have been criticized, even by sympathetic proponents, for seeming to leave our current liberal democratic institutions of representative democracy largely in place. He "refuse(s) to elaborate institutional venues of deliberation…he would insist that a theory of deliberative politics cannot determine the details of institutions because these must fit the context, be discussed, shaped, and adopted by a particular group of people with a particular cultural and political history" (Chambers, 2002:186). So how are we to achieve a deliberative politics of public opinion and will formation? How are we to move from thought experiments to empirical investigation?

On this continuum of increasing deliberative quality from mere conversation about public issues to an imaginary structured dialogue of nearly unlimited duration, we can place "everyday talk in the deliberative system" near the lower, more informal end, and actual dialogues in a structured process meant to engage the public in reasoning under good conditions (the deliberative microcosm or mini-public strategy) somewhat nearer the high end—but of course still far from purely imaginary dialogues in perfected thought experiments such as might be envisioned in the "ideal speech situation." Mansbridge (1999b) insists that "everyday talk" should be judged by the same deliberative standards as highly

structured deliberative processes, admitting that they will likely not do as well in fulfilling those expectations.

Theory

So how may deliberation affect public-spiritedness, on whose part, and by how much? It does seem to make "better citizens" (Pateman, 1970; Mansbridge, 1999a; Mendelberg, 2002). It increases the deliberators' sense of efficacy (Knobloch and Gastil, 2015) and knowledge of the matters being deliberated (Luskin et al., 2013; Knobloch and Gastil, 2015). The impetus to learn and think about the issues should help them both clarify their understanding of their interests and values (both individual and collective) and see more clearly how those interests and values may be served or disserved by given policy alternatives. In general, learning (not necessarily from deliberation) can affect policy attitudes and vote choices (e.g., Carpini Delli and Keeter, 1996; Althaus, 1998; Bartels, 1996; Lau and Redlawsk, 1997; Oscarsson, 2007). And, in deliberation (at least as implemented by deliberative polling), it often drives the resulting attitude changes (Luskin, Fishkin, and Jowell, 2002; Fishkin et al., 2010).

But these are pleasing effects on other variables, not public-spiritedness. Deliberation may increase efficacy, induce learning, and thus change attitudes, but does it increase public-spiritedness? Theoretically, it should. One plausible mechanism is Tocquevillian. On de Tocqueville's view, the participants place increased value on the good of the community out of more enlightened self-interest—in de Tocqueville's phrase, "self-interest rightly understood." Deliberation leads them to see the community interest as serving their individual interests, suitably (re)defined.

A second plausible, subtly different mechanism is Millian. On Mill's view, the participants come to "enlarge" the set of those whose interests they take as their own, thus reinterpreting their individual interests to include the community interest. The impetus seems to come from the necessity of justifying one's views to others (see also Habermas, 1996). The individual participant "is called upon, while so engaged, to weigh interests not his own; to be guided in case of conflicting claims, by another rule than his private partialities; to apply, at every turn, principles and maxims which have for their reason of existence the common good …. He is made to feel himself one of the public, and whatever is their interest to be his interest" (Mill, 1861:79).

For any given individual, on any given deliberation, on any given policy issue, some mix of these two mechanisms may be in play. An individual may come to see the policy as serving his or her more "rightly understood" self-interest, may come to identify his or her interests with the community's, or both.[2] No matter the mix, deliberation should increase the participants' support for policies they believe to serve the good of the community because they believe those policies to do so.

But it is not merely support in the sense of approval. It is also the willingness to act in support of such policies. Central to both de Tocqueville and Mill is the idea that citizens are not just passive holders of opinion about the public good, they are also active citizens who will contribute to it. The public benefits being favored entail some action or cost on the part of individuals. Both de Tocqueville and Mill suggest this as an essential part of public-spiritedness. De Tocqueville observes that "an enlightened regard for themselves constantly

[2]An ambiguity paralleled in the literature on sociotropic voting: the economic policies for which people vote "sociotropically" may also benefit their individual pocketbooks (Kinder and Kiewiet, 1981).

prompts [Americans] to assist one another and inclines them willingly to sacrifice a portion of their time and property to the welfare of the state" and that "the principle of self-interest rightly understood … suggests daily small acts of self-denial" (2016:489).

Self-interest "rightly understood" is fostered by the distinctive "schools of public spirit" such as the jury and the town meeting that de Tocqueville encounters in America. This kind of public participation is where Americans learn to exercise responsibility for the public good. It is not just that they approve of public benefits but that they learn to act to bring them about (entailing some effort or cost and taking responsibility). In Mill's view, the participants' coming to reinterpret their individual interests to include the community interest may make them more willing to make sacrifices for its sake. It is "the participation of the private citizen, if even rarely, in public functions" through which the citizen comes to realize that "whatever is their interest to be his interest." These experiences foster what he calls "the virtues of self-help and self-government." The end product of the schools of public spirit (institutions that foster discussion for the public good such as town meetings or juries) is the willingness to act in the public interest (Mill, 1991:78–79).

So far, the evidence of deliberation's effect on public-spiritedness remains thin (Mansbridge, 1999a). Searing et al. examine informal discussions in British pubs and similar settings, finding little evidence of public-spiritedness, but, as they themselves acknowledge, these discussions are not highly deliberative, lacking much in "deliberative quality," "diversity of views," and "structure" (2007:609).

Some scattered evidence from DPs does suggest some effect. In Zeguo Township in China, deliberation increased support for infrastructure projects benefiting the whole community, as opposed to those benefiting only one village (Fishkin et al., 2010). In greater New Haven, it increased support for revenue sharing in promoting new development to the region as a whole (Farrar et al., 2010). In the United Kingdom, it increased agreement with the statement that "when voting, people should always put the interest of the public as a whole before those of themselves and their family" (Luskin and Fishkin, 2002). But these results are just a start. They suggest attitudes that are public-spirited but they do not include any components of sacrifice or willingness to undertake actions or shoulder costs. That element is clearer in the data we will explore here.

But not every deliberator needs to become more public-spirited, nor does so to equal degree. Who becomes more public-spirited, and by how much? These questions have received still less attention. Next, we consider the roles of several kinds of explanatory variables, including (1) values (the importance the individual places on such goals as protecting the environment or economic fairness), (2) empirical premises (beliefs about the status quo or, especially, the likely consequences of given courses of action, such as whether higher electric bills hinder economic development), (3) practical constraints (such as income) limiting what the individual can accept without incurring unbearable costs, and (4) more general policy orientations, having to do with the size and scope of government, the value of freedom versus equality (each in any of several possible senses), and the general effectiveness of government regulations and programs in addressing the problems they are aimed at addressing. Our expectation is that people support public-spirited policy options to the extent that they believe them to serve their values, do not incur unbearable costs, and comport with their general views about the nature of the good society and what sorts of policies are apt to promote it.

Data and Measurement

Here we take our evidence from arguably more direct measures drawn from several DPs. These embody a structured deliberative design implementing good conditions for considering the merits of the argument. They integrate a random sample of the public, balanced briefing documents, small-group discussions, plenary sessions with experts and policymakers, and confidential questionnaires pre- and postdeliberation. In a DP, a random sample of participants with diverse backgrounds and viewpoints are selected to ensure the representativeness of public opinions. Balanced briefing materials presenting a full range of competing arguments on policy choices are provided to inform participants, who then ponder and debate about the issues in face-to-face, small-group discussions and question panels of competing experts and policymakers in plenary sessions. Confidential questionnaires are administered again postdeliberation to collect participants' informed opinions. Therefore, DPs aim at representativeness, political equality, diversity of views, deliberative quality, and informed decisions.

Between 1996 and 1998, eight electric utility providers—Central Power and Light (CPL) in Corpus Christi; West Texas Utilities (WTU) in Abilene; Southwestern Electric Power Company (SWEPCO) in Shreveport, Louisiana; Houston Light and Power (HLP) in Houston; Entergy Texas (ENTERGY) in Beaumont; Texas Utilities (TU) in Dallas; Southwestern Public Service (SPS) Company in Amarillo; and El Paso Electric (EPE) in El Paso—conducted a series of parallel DPs, inviting customers from their service areas (mainly in Texas, although in some cases, spilling over into adjacent portions of neighboring states) to spend two days deliberating about the best ways of meeting the increasing demand for electricity. Seven of these DPs—all but EPE—afforded usable data.[3]

A total of 8,429 randomly selected customers responded to an initial telephone survey, and 1,493 of them (between 175 and 232 in each DP) took part in the deliberations and completed a postdeliberation survey. Before deliberation, the participants were sent briefing materials assembled by committees representing a broad spectrum of stakeholders, including consumers, environmentalists, shareholders, the oil industry, and large industrial users. Over the weekend of deliberation, they were divided randomly into small groups of 12–20, each led by a trained moderator, and discussed the advantages and disadvantages of a range of energy options, including energy efficiency programs, building new fossil fuel plants, building new renewable energy plants, purchasing power from outside sources, and so forth. Small group discussions alternated with plenary sessions, where the participants raised questions developed in their small groups to panels of experts and policymakers of varying interests and perspectives. Incentives of $50 were offered to participants for agreeing to attend and an additional $100–$150 for actually attending the deliberative weekend and completing the postdeliberation questionnaire.

The questionnaires varied somewhat, but those for CPL, WTU, and SWEPCO were nearly identical. We first base our analysis on the seven DPs to show an increase in public-spiritedness after deliberation, and then build models to explain this increase based on those three merged data sets (CPL, WTU, and SWEPCO) since they share the same explanatory variables. On the whole, the participants differ only insignificantly from the nonparticipants (the initial respondents not attending the event), except for being slightly more educated and younger (see the supplementary Appendix).

These DPs asked three questions bearing on public-spiritedness. Two ask about action with respect to holistically public-spirited goals—clean air and energy conservation. In

[3]A computer hardware theft at the survey firm conducting the EPE DP rendered the data unusable.

particular, they ask participants how much they would be willing to see their monthly electric bill increase to pay (a) for obtaining more renewable energy and (b) for augmenting conservation programs.[4] These items thus ask about making a monetary sacrifice for policy options contributing to a healthy environment, a public good (assuming that those options do in fact contribute to a healthy environment) (see Fishkin, 2009).

Economists have used similar willingness-to-pay questions to gauge "contingent valuation" (Louviere, Hensher, and Swait, 2000), an approach that has been criticized, principally on the grounds that largely uninformed respondents are simply inventing responses to hypothetical questions divorced from any real decision (Hausman, 2012), something that should scarcely surprise any cold-eyed analyst of public opinion (see Converse, 1964). But our use of formally similar questions is different, in at least two important ways. First, we use the responses to gauge individual attitudes, not to assign aggregated values to policy options. Second, the postdeliberation questions come at the end of a weekend of scrupulously balanced discussion and a still longer period of learning. The participants read briefing materials vetted by competing experts and stakeholders, discuss the issues in randomly assigned small groups led by trained moderators, and get to question policy experts in plenary sessions. As a result, they become demonstrably more knowledgeable, seem to reach more considered opinions, and thus are much less often simply making up numbers on the spot.

Since preliminary explorations have suggested, consistent with criticisms of contingent valuation, that the exact dollar amounts can be wildly high—more an expression of support for the goal than of actual willingness to pay (see the supplementary Appendix), we focus on the dichotomous willingness to pay at least $1, the smallest amount invited as a response.[5] Here increased public-spiritedness is represented by increased willingness to pay something to get more renewable energy and conservation.

The third question, by contrast, is more attitudinal and aimed at distributive public-spiritedness. Specifically, it asks how important it is, on a scale from 0 (not at all important) to 10 (extremely important), "to see to it everyone has their basic needs met, even if that means the rest of us have to pay a little more." This is about the interests of others in the community—which the participants may come to see as *serving* their own, as de Tocqueville suggests, or as *being* part of their own, as Mill suggests. A supportive answer clearly reflects public-spiritedness for the affluent but is somewhat ambiguous for the poor, for whom it may reflect self-interest as well as or instead of public-spiritedness.

In addition, this third item differs from the first two in phrasing and format. In the first place, it is more abstractly put. It does not seek a specific dollar amount or refer to one's utility bill. The format is also different: a 0–10 scale of importance (rescaled to the 0–1 interval in the analysis) versus an open-ended question about a dollar amount (collapsed down in the analysis to a dichotomy distinguishing zero from greater than zero amounts).

Given these differences in substance, phrasing, and format, it is hardly surprising to find that the two holistic willingness-to-spend measures are robustly correlated with one another (especially at T1 but also, if less strikingly, at T2) but only rather wanly correlated

[4]The exact wordings differ slightly across the seven DPs; see the supplementary Appendix. Note that the reference "generation by technologies *such as* wind or solar power" is unlikely to have led the participants to think of nuclear power, which was neither discussed in the deliberation nor indeed an option in Texas at the time.

[5]We also tried this analysis for the willingness-to-pay measures in dollars (shown in the supplementary Appendix). The results do not differ much.

TABLE 1

Correlations Between Measures of Public-Spiritedness

	W2P Renewable Energy	W2P Conservation
T1		
W2P conservation	0.667	
p	<0.001	
N	614	
Basic needs	0.120	0.123
p	0.003	0.002
N	617	612
T2		
W2P conservation	0.368	
p	<0.001	
N	641	
Basic needs	0.100	0.077
p	0.010	0.052
N	651	640

NOTE: W2P, willingness to pay. Entries are Pearsonian correlations. All *p*s are two-tailed.

with the distributive—meeting-basic-needs—measure (at both T1 and T2). Table 1 shows the correlations.[6]

How much of this difference stems from the differences in format and phrasing and how much from the differences in substance is unclear. We feel safe in saying that it is not simply a function of the difference between the 11-point 0–10 scale and the binary 0–1 scale. We have tried dichotomizing the meeting-basic-needs measure, but the pattern of correlations remains stubbornly the same: much stronger between the two willingness-to-spend measures than between them and the meeting-basic-needs measure, no matter where we split the latter. These holistic and distributive versions of public-spiritedness may simply have limited covariance. People who are above the mean on the one may often be below the mean on the other.

Analysis

Deliberation increased our measures of both holistic and distributive public-spiritedness dramatically. Table 2 shows the before–after contrasts on all three measures. The mean increase in the willing to pay more for renewable energy is 26.8 percent. For energy conservation, the mean increase is 25.1 percent. The mean importance of seeing to it everyone has their basic needs met, even if that means paying a little more, increases by 0.075 on the 0–1 scale. The first two increases are large, and the third nontrivial. All are statistically significant. The increase for meeting-basic-needs measure does seem to reflect some increase in public-spiritedness even for the more affluent. As Table 2C shows, the mean increase for participants with an annual family income >$15,000 (in 1996 dollars) was smaller than that for participants with an annual family income ≤$15,000 (0.054 vs. 0.091), but still sizable and easily significant (p also < 0.001).

[6]The supplementary Appendix shows the means and the 95 percent confidence intervals for the meeting-basic-needs measure when the willingness-to-spend items are 0 versus 1.

TABLE 2

Public-Spiritedness Before and After Deliberation

	T1	T2	T2-T1	*p*	*N*
(A) Paying More for Renewable Energy					
CPL	59.9%	81.9%	22.0%	<0.001	182
WTU	55.4	87.9	32.6	<0.001	215
SWEPCO	53.6	83.4	29.9	<0.001	211
HLP	43.4	69.7	26.3	<0.001	175
ENTERGY	37.0	66.7	29.7	<0.001	165
TU	62.9	87.3	24.4	<0.001	213
SPS	58.4	80.7	22.3	<0.001	202
Mean	53.6	80.3	26.8	<0.001	1,363
(B) Paying More for Conservation					
CPL	51.7%	72.4%	20.7%	<0.001	174
WTU	42.7	70.6	28.0	<0.001	211
SWEPCO	45.9	79.9	34.0	<0.001	209
HLP	44.6	64.9	20.2	<0.001	168
ENTERGY	32.5	62.6	30.1	<0.001	163
TU	57.4	77.5	20.1	<0.001	209
SPS	49.8	71.9	22.1	<0.001	199
Mean	46.7	71.9	25.1	<0.001	1,333
(C) Meeting Everyone's Basic Needs Even if That Costs More					
CPL	0.633	0.699	0.066	<0.001	205
WTU	0.677	0.763	0.086	<0.001	226
SWEPCO	0.678	0.751	0.074	<0.001	227
Mean	0.664	0.739	0.075	<0.001	658
Income					
≤$15000	0.717	0.809	0.091	<0.001	140
>$15000	0.658	0.712	0.054	<0.001	444

NOTE: Entries in (A) and (B) are percentages willing to pay more for renewable energy and conservation, respectively. Entries in (C) are importance ratings of meeting everyone's basic needs on 0–1 scale. CPL, Central Power and Light in Corpus Christi; WTU, West Texas Utilities in Abilene; SWEPCO, Southwestern Electric Power Company in Shreveport, Louisiana; HLP, Houston Light and Power in Houston; ENTERGY, Entergy Texas in Beaumont; TU, Texas Utilities in Dallas; SPS, Southwestern Public Service Company in Amarillo. All *p*s are one-tailed.

Models

Yet these simple before–after comparisons still leave a black box. What is it about the deliberative experience that produces these increases? Are the increases caused by public-spirited reasons or private-spirited reasons? As a way of addressing these questions, we estimate models expressing our measures of public-spiritedness as functions of relevant values, empirical premises, practical constraints, and more general policy orientations (all rescaled to the 0–1 interval).

In the way of values, we use:

Protecting the environment. Operationally, this is the mean importance, on a 0–10 scale, from not at all to extremely important, that the participant attaches to reducing pollution, using resources that maintain current levels of environmental quality, and using options

that add extra environmental protection.[7] The more highly the participant values protecting the environment, the more willing he or she should be to pay more for renewable energy—not so much because it is renewable as because it is generally much cleaner. This is clearly a public-spirited reason for favoring renewable energy options in terms of protecting a clean environment.

Preserving energy resources. Operationally, the importance, on the same 0–10 scale, that the participant attaches to preserving resources such as coal, natural gas, and oil for the future. Given anything like current energy generation patterns, heavily reliant on fossil fuels, increased conservation means leaving more nonrenewable resources in reserve. Thus the more the participant values preserving energy resources, the more willing he or she should be to pay more for increased conservation. This is also a public-spirited reason for favoring conservation programs.

Minimizing cost. Operationally, the importance, on the same 0–10 scale, that the participant attaches to using resources that result in the lowest cost electricity. The more heavily the participant weighs cost as a criterion, the less willing he or she should be to pay more for either renewable energy or increased conservation (or any other goal). This is evidently a self-interested reason.

Economic fairness. Operationally, the importance, on the same 0–10 scale, that the participant attaches to utilities' tailoring rates and energy management programs to ensure that low-income customers are treated fairly. The more the participant values treating the poor fairly, the more he or she should favor seeing to it that everyone's basic needs are met, even if that means paying more. This is a more distributive public-spirited reason.

For empirical premises, we include:

Using fossil fuels harms the environment. Operationally, the extent to which the participant agrees or disagrees, on a five-point scale, scored to run from 1 (disagree strongly) to 5 (agree strongly), with 3 as neither agree nor disagree, that the use of coal and natural gas harms the environment. The more strongly the participant believes this, the more willing he or she should be to pay more for both renewable energy and conservation. Believing this statement is more or less an indication of public-spirited reasoning for favoring renewable energy and conservation provided one considers a clean environment as a public good.

Higher electric bills hinder economic development. Operationally, the extent to which the participant agrees or disagrees, on the same 1–5 scale, with that statement. The more strongly the participant believes this, the less willing he or she should be to pay more for renewable energy, conservation, or any other goal. Believing this statement is an indication of public-spirited reasons for less willingness to pay more when one considers economic development as a public good benefiting all.

The poor pay disproportionately. Operationally, the extent to which the participant agrees or disagrees, on the same 1–5 scale, that low-income customers pay more than their fair share of the cost of electricity. The more strongly the participant believes this, the more he or she should favor seeing to it that everyone's basic needs are met, even if that means paying more. This belief could be the basis for a distributive public-spirited reason.

We also consider one practical constraint:

Income. Operationally, the participant's self-reported family income in the past year, within specified ranges (identical for the CPL, WTU, and SWEPCO DPs). The supplementary Appendix shows the details. The higher the participant's family income, the more he or she is capable of paying more for both renewable energy and increased conservation

[7]Cronbach's alpha is 0.684 at T1 and 0.675 at T2.

(among other goals) and the more he or she should favor seeing to it that everyone's basic needs are met, even if that means paying more.

And one more general policy orientation:

Ideology (conservatism). Operationally, the participant's characterization of his or her political views, on a scale from 0 (liberal) to 10 (conservative). Given the redistributive and role-of-government postures at the core of the liberal–conservative dimension, the more conservative the participant, the less he or she should favor seeing to it that everyone's basic needs are met, especially if that means paying more, and the less willing he or she should be to pay more for either renewable energy or increased conservation, or any other goal.

That leaves the questions of functional form and which explanatory variables appear in each equation. For the two binary willingness-to-pay variables, we make the function logistic, setting

$$p\left(y_i = 1|x_{i1,\,\ldots,}x_{i6}\right) = E\left(y_i|x_i\right)$$
$$= [1 + \exp(-\beta_0 - \beta_1 x_{i1} - \beta_2 x_{i2} - \beta_3 x_{i3} - \beta_4 x_{i4} - \beta_5 x_{i5} - \beta_6 x_{i6})]^{-1}, \quad (1)\text{–}(2)$$

where, as usual, p denotes probability, E denotes expectation, and the vertical bar denotes conditioning (making p and E conditional on $x_{i1,\,\ldots,}\, x_{i6}$). This equation characterizes the models, both (1) for the ith participant's willingness to pay more for renewable energy and (2) for the ith participant's willingness to pay more for conservation. All that differs between the two models, apart from their dependent variables, is one of the values. In Equation (1), x_{i1} = the value he or she places on protecting the environment. In Equation (2), it instead = the value he or she places on preserving energy resources. In both Equations (1) and (2), x_{i2} = the value he or she places on minimizing cost, x_{i3} = his or her belief or disbelief that using fossil fuels has a negative impact on the environment, x_{i4} = his or her belief or disbelief that higher electric bills hinder economic development, x_{i5} = his or her self-perceived conservatism, and x_{i6} = his or her household income.

For seeing everyone's basic needs met, a more finely discriminated, more ignorably discrete dependent variable, we adopt instead the linear, additive model:

$$E\left(y_i\middle|x_{i1},\ \ldots,\ x_{i4}\right) = \beta_0 + \beta_1 x_{i1} + \beta_2 x_{i2} + \beta_3 x_{i3} + \beta_4 x_{i4}. \quad (3)$$

Here, x_{i1} = the value the ith participant places on economic fairness, x_{i2} = the extent to which he or she sees the poor as paying more than their fair share of the cost of electricity, x_{i3} = his or her self-perceived conservatism, and x_{i4} = his or her household income.

Consistent with the reasoning above, we expect $\beta_1 > 0$, $\beta_2 < 0$, $\beta_3 > 0$, $\beta_4 < 0$, $\beta_5 < 0$, and $\beta_6 > 0$ in the willingness-to-pay models (1) and (2) and $\beta_1 > 0$, $\beta_2 > 0$, $\beta_3 < 0$, and $\beta_4 > 0$ in the seeing-everyone's-basic-needs-met model (3). Note that in all three models the coefficient for household income (β_6 in models (1) and (2), β_4 in model (3)) is expected to be positive: ceteris paribus (an important qualification), public-spiritedness is easier for those with greater means. In addition, we expect the magnitudes of the estimated coefficients to be greater and the equations to fit better postdeliberation. The learning and thinking they do should leave the participants with more cogently and tightly thought-through policy attitudes.

Estimated Coefficients and Effects

The quantities of greatest interest are of course the explanatory variables' effects on the dependent variables—the partial derivatives of (the conditional expectations of) the latter with respect to the former. In Equations (1) and (2), the kth explanatory variable's effect is $\partial E(y_i|x_i)/\partial x_{ik} = \beta_k[E(y_i|x_i)(1 - E(y_i|x_i))]$. Since $E(y_i|x_i)$ and $1 - E(y_i|x_i)$ are probabilities and thus nonnegative, the sign of β_k is the sign of the effect. When $\beta_k = 0$, the effect is 0, making $\beta_k = 0$ our null hypothesis for statistical tests.

We discuss both pre- and postdeliberation results but focus on the latter, the participants' more considered opinions.[8] Table 3A shows the pre- and postdeliberation maximum likelihood coefficient estimates for Equation (1): for being willing to pay more for more renewable energy. Almost all the coefficient estimates, both before and after deliberation, are "statistically significant" by the conventional $p < 0.05$ criterion, the only exceptions being those for ideology (both before and after) and for believing that higher electric bills hinder economic development (after only). All except the one for postdeliberation ideology have the expected sign. Participants more concerned about protecting the environment were more willing to pay more for renewable energy, as were those believing that using fossil fuels harms the environment. Those more concerned about the cost of electricity were less willing to do so, as were those believing that higher electric bills hinder economic development.

As this suggests, there are some before–after differences. The magnitudes of most of the coefficient estimates increase after deliberation. Most notably, the estimated coefficient for wanting to minimize cost, already large and negative, becomes substantially and significantly ($p = 0.012$ for the difference) more so postdeliberation, and the estimated coefficient for believing that higher electric bills hinder economic development wanes from strongly and significantly to faintly and insignificantly negative ($p = 0.08$ for the difference). It may also be worth remarking that the estimated coefficient for ideology flips from insignificantly negative to insignificantly positive (but with $p =$ only 0.178 for the difference). The McFadden pseudo-R^2 is a respectable 0.398 before deliberation and a slightly higher 0.411 after.

Table 3B shows the analogous results for Equation (2): for being willing to pay more for more conservation. Here only some of the predeliberation coefficient estimates (specifically those for believing that using fossil fuels harms the environment and for income) meet the conventional 0.05 standard, but all of the postdeliberation ones do so with room to spare. Again, almost all the signs are as expected, with the one exception being the significantly positive sign for believing that higher electric bills hinder economic development after deliberation. Participants more concerned about preserving energy resources were more willing to pay more for conservation, as were those believing that using fossil fuels harms the environment and—after deliberation—those believing that higher electric bills hinder economic growth, while those more concerned about minimizing cost were less willing to pay more for conservation. Here the before–after contrasts are more muted, although the coefficient estimates do increase in magnitude. Only the change in the coefficient estimate for believing that higher electric bills hinder economic growth—which rights itself from modestly and insignificantly negative to strongly and very significantly positive—is

[8]The supplementary Appendix presents the regression of the change in the meeting-basic-needs measure on the changes in values and premises. The results are similar to those here, only less sharp. Modeling the change in the binary willingness-to-pay items is difficult because the difference between two 0–1 items can be 0 when they stay the same at 1 or when they stay same at 0, two very different cases.

TABLE 3

Explaining Willingness to Pay

	T1					T2					T2-T1	
	Coeffi-cient	*p*	1st Difference (LP)	1st Difference (Means)	1st Difference (MP)	Coeffi-cient	*p*	1st Difference (LP)	1st Difference (Means)	1st Difference (MP)	Differ-ence	*p*
(A) Renewable Energy												
Intercept	−0.299	0.357				1.445	0.102					
Protecting the environment	2.286	<0.001	0.298	0.511	0.195	2.655	0.002	0.463	0.439	0.018	0.369	0.376
Minimizing cost	−1.385	0.015	−0.128	−0.262	−0.076	−3.850	<0.001	−0.719	−0.213	−0.060	−2.465	0.012
Fossil fuels harm environment	0.686	0.009	0.046	0.161	0.026	1.038	0.007	0.113	0.100	0.003	0.353	0.245
Higher electric bills hinder economic development	−0.871	0.002	−0.064	−0.192	−0.037	−0.093	0.420	−0.007	−0.008	−0.0001	0.779	0.080
Ideology	−0.348	0.182	−0.020	−0.080	−0.011	0.236	0.319	0.018	0.020	0.0004	0.584	0.178
Income	0.862	0.023	0.063	0.199	0.036	1.203	0.019	0.139	0.107	0.003	0.341	0.318
Pseudo-R^2	0.398					0.411						
N	420					486						

Continued

TABLE 3

Continued

	T1					T2					T2-T1	
	Coeffi-cient	*p*	1st Difference (LP)	1st Difference (Means)	1st Difference (MP)	Coeffi-cient	*p*	1st Difference (LP)	1st Difference (Means)	1st Difference (MP)	Differ-ence	*p*
(B) Conservation												
Intercept	−0.251	0.369				−0.174	0.400					
Preserving energy resources	0.471	0.194	0.081	0.117	0.069	1.117	0.011	0.153	0.238	0.041	0.646	0.188
Minimizing cost	−0.539	0.166	−0.095	−0.130	−0.081	−1.162	0.010	−0.162	−0.187	−0.043	−0.623	0.203
Fossil fuels harm environment	0.862	<0.001	0.164	0.212	0.142	0.976	0.002	0.127	0.193	0.033	0.114	0.395
Higher electric bills hinder economic development	−0.324	0.124	−0.054	−0.129	−0.045	0.881	0.008	0.111	0.173	0.028	1.204	0.005
Ideology	−0.377	0.148	−0.063	−0.093	−0.054	−0.866	0.016	−0.109	−0.157	−0.028	−0.489	0.183
Income	0.681	0.047	0.124	0.168	0.107	1.039	0.011	0.139	0.195	0.036	0.359	0.278
Pseudo-R^2	0.347					0.327						
N	420					473						

NOTE: LP means that the other explanatory variables are all at their least propitious, and MF means that they are at their most propitious. All *p*s are one-tailed.

significant ($p = 0.005$). The McFadden pseudo-R^2 is again respectable both before and after deliberation, albeit slightly lower after (at 0.327 vs. 0.347).

Actually appraising these coefficient estimates requires another step, one we have so far been glossing over. The effect $\partial E(y_i|x_i)/\partial x_{ik} = \beta_k[E(y_i|x_i)(1 - E(y_i|x_i))]$ is not a single number (except for $\beta_k = 0$). Rather, it is both nonlinear (a function of x_{ik} itself) and nonadditive (a function of the other xs). Thus we consult a first difference—specifically, between the values of $E(y_i|x_i)$ when x_{ik} is at its maximum (1) and at its minimum (0). This quantity still depends on values of the other xs, so we consider three scenarios: when the other xs are all at their most propitious for public-spiritedness (1 for those carrying positive coefficients, 0 for those carrying negative ones), when they are all at their means, and when they are all at their least propitious for public-spiritedness (1 for those carrying negative coefficients, 0 for those carrying positive ones). The estimated first differences for Equation (1), in Table 3A, suggest that all our regressors can make some sizable difference to the probability of being willing to pay extra for more renewable energy. Predeliberation, the differences are largest in magnitude when the other regressors are at their means. Postdeliberation, they are generally largest when the other variables are at their least propitious, with the exceptions of believing that higher electric bills hinder economic development and ideology, whose first differences are largest when the other regressors are at their means. With two exceptions, the first differences are roughly similar before and after deliberation. The value placed on minimizing cost matters much more after deliberation (−0.719) than before (−0.262), while the belief that higher electric bills hinder economic development makes some difference before deliberation (−0.192) but almost none (−0.008) after. Predeliberation, the biggest difference belongs to one's attachment to protecting the environment. Postdeliberation, that still makes a big difference, but a still bigger one belongs to one's attachment to minimizing cost.

The estimated first differences for Equation (2), in Table 3B, also run sizable, both before and after deliberation, especially when the other regressors are at their means. Here too most of the differences made by given regressors look roughly similar before and after deliberation. There is no change as sharp as the increase in the magnitude of the first difference associated with minimizing cost in Equation (1). The sharpest pre- to postdeliberation change is from 0.117 to 0.238 for the value of preserving energy resources. Predeliberation, the biggest first difference belongs to the premise that fossil fuels harm the environment. Postdeliberation, that can still make a big difference, but the biggest difference can be made by the value of preserving energy resources.

Table 4 shows the ordinary least squares estimates of Equation (3), the equation for seeing to it that everyone's basic needs are met. Here x_{ik}'s effect is simply β_k—and so is the first difference—given the 0–1 scorings. Postdeliberation, two of the four regressors appear to have their expected effects. The estimated coefficients for economic fairness and that the poor pay disproportionately are statistically significant and of the expected sign. The biggest effect, by miles, belongs to the value of economic fairness. It fades slightly but remains very large postdeliberation. Again, there are some before–after differences. The estimated coefficient for believing that the poor pay disproportionately flips from significantly negative to strongly and significantly positive ($p < 0.001$ for the difference). The adjusted R^2 is a respectable 0.315 before deliberation and a still higher 0.381 after.

TABLE 4

Explaining Seeing Everyone's Basic Needs Met

	T1		T2		T2-T1	
	Coefficient	*p*	Coefficient	*p*	Difference	*p*
Intercept	0.132	0.016	0.237	<0.001		
Economic fairness	0.711	<0.001	0.551	<0.001	−0.159	0.008
The poor pay disproportionately	−0.054	0.040	0.128	<0.001	0.182	<0.001
Ideology	−0.077	0.026	−0.012	0.358	0.065	0.100
Income	0.015	0.369	−0.013	0.361	−0.028	0.313
Adjusted R^2	0.315		0.381			
N	474		491			

NOTE: All *p*s are one-tailed.

Discussion

Based on these results, using these measures, deliberation does appear to increase public-spiritedness—both holistic and distributive. The participants became markedly more willing to pay more to increase renewable energy and conservation programs. Presumably, they increasingly saw renewable energy and conservation as serving the good of the community, in both preserving nonrenewable resources and protecting the environment. The willingness to pay more for more renewable energy and for more conservation programs rested heavily on support for the values of protecting the environment and of preserving energy resources, respectively. In addition, the value placed on minimizing cost matters more for the willingness to pay more for increasing renewable energy, a more expensive option, than for increasing conservation programs. By and large, our explanatory models fit better after deliberation than before (except for conservation). Participants' considered judgments are not only connected to more coherent reasons, they were also giving greater weights to public-spirited reasons.

It may be relevant that among all the potential energy options, also including building new coal, natural gas, or other fossil fuel plants, and buying power from outside suppliers, willingness to pay more for more renewable energy and conservation programs increased most after deliberation (see the supplementary Appendix). The percentage increase for natural gas, cleaner than coal, but nonrenewable compared to wind or solar power, was no more than half of that for renewable energy and conservation. In addition, there was no significant increase in willingness to pay more for coal, a polluting and nonrenewable option. This evidence, detailed in the supplementary Appendix available online, suggests that participants were not simply becoming more generous after deliberation, they became public-spirited for the good of the community. The increase in public-spiritedness seems at the heart of the major changes from deliberation. This set of DPs had a direct bearing on policy making. Large investments in wind energy have been made in West Texas, directly and consciously as a result of these DPs in Texas, endorsing the more public-spirited energy options in practice (Luskin, Fishkin, and Plane, 1999; Fishkin, 2018).

Deliberators also became more willing to see the utility do more to meet everyone's basic needs, even at additional cost to themselves. We argue that these are at least suggestive measures of public-spiritedness, referring as each does to a public good to be increased at some cost. The increases are striking.

We must nonetheless acknowledge several limitations. A control sample separated from the deliberators by random assignment, as in a true experiment, would provide further assurance that it was the deliberation that produced the increase in public-spiritedness. A closer look at the elements of the deliberation—for example, the number, nature, and quality of the arguments of given sorts voiced in the small groups—would help shed light on what exactly is responsible. It may also be possible to devise better measures of public-spiritedness. Those we employ here are admittedly only suggestive—but it is rare to have any. In future research, one might differentiate whether public-spiritedness is holistic or distributive, for example, promoting clean air versus promoting homeless shelters; whether it is as an action, such as paying a price or expending effort or time, or as an attitude, such as how strongly someone supports certain policy options. In addition, one might want to gauge whether the mechanism that deliberation increases public-spiritedness is Millian, Tocquevillian, or both. A battery of questions might be asked before and after deliberation to discover whether a given policy option would be considered by someone as good for oneself, for one's family, for groups/communities, or for the whole country.

Our study takes a close look at the normative theory underlying the ideal of deliberation and interrogates empirical assumptions that same theory makes about the supposedly beneficial outcomes of deliberative practices. Drawing on a rare data set from seven DPs on energy policies held between 1996 and 1998 in and around Texas, involving a total of 1,493 citizens, our study provides new evidence that participation in a deliberation event shifts citizens' policy attitudes toward greater "public-spiritedness," adding to our knowledge on the impact of deliberation.

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Supporting Information

Additional supporting information may be found online in the Supporting Information section at the end of the article.

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