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Citizen Panels and Opinion Polls: Convergence and Divergence in Policy Preferences

Shelley Boulianne
MacEwan University, sjboulianne@gmail.com

Kristjana Loptson
University of Alberta, loptson@ualberta.ca

David Kahane
University of Alberta Department of Political Science, david.kahane@ualberta.ca

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Abstract

Citizen panels offer an alternative venue for gathering input into the policy-making process. These deliberative exercises are intended to produce more thoughtful and informed inputs into the policy-making process, compared to public opinion polls. This paper highlights a six day deliberative event about energy and climate issues, tracking opinion changes before and after the deliberation, as well as six months after the deliberation. In two of the five policy domains, opinions change as a result of the deliberation and these changes endure six months after the deliberation. The tracking of opinions across the three points in time reveals a pattern of convergence between panelists' views and poll results for three of the five policy domains. Panelists were overly optimistic about many of the policy options prior to deliberation, but became more critical of these policies post-deliberation, moving their opinions closer to those of poll respondents.

Author Biography

Shelley Boulianne is an associate professor in the Department of Sociology at MacEwan University. She received her PhD in sociology from the University of Wisconsin-Madison in 2007.

Kristjana Loptson currently holds a postdoctoral fellowship at the University of Saskatchewan. She received her PhD in political science from the University of Alberta in 2017. She was a research assistant with Alberta Climate Dialogue from 2011-2016.

David Kahane is a Professor of Political Science at the University of Alberta in Canada. From 2010-2016 he led Alberta Climate Dialogue, an international project that convened citizens to deliberate on climate change and influence climate policy. He teaches and researches democratic theory and practice, especially as these relate to the design of collaborative citizen and stakeholder processes, and to questions of sustainability and systems change.

Keywords

public deliberation, public opinion polls, Canada, longitudinal study

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Introduction

Legislatures and city councils are key bodies for collective decision-making about public policies. Ideally, these bodies consider a variety of inputs before deciding on a policy direction. Sometimes, public opinion polls are considered as an input into this process, with the expectation that these polls reflect citizens' preferences for public policy. However, the policy preferences gathered in public opinion polls may be based on a lack of information, false information, over-confidence in knowledge about a topic, and irrational reasoning that leads to policy preferences that are inconsistent with a person's best interests (Althaus, 2003; Fournier, van der Kolk, Carty, Blais, & Rose, 2011; French & Laver, 2009; Kuklinski, Quirk, Jerit, Schwieder, & Rich, 2000). In response, decision-makers have sought alternative ways to gather thoughtful and informed citizen input into the policy-making process.

This study compares three-wave panel data from deliberative participants to data from a random sample public opinion poll. The comparison of three-wave panel data suggests that deliberative participants' views are changing and becoming more in line with public opinion polls in three of the five policy domains. The three-wave panel also demonstrates that opinions on two policies changed significantly as a result of the deliberation and these changes endure six months after the deliberation. This deliberative exercise was distinct from many other exercises in the length of the deliberation and the connection to the policy-making process. The deliberative event about climate change and energy issues occurred over six Saturdays in 2012 and culminated in a report with recommendations to City Council. City administration made a commitment to *consider* these recommendations in the policy-making process. These characteristics make this deliberative exercise an interesting case study about how deliberation affects policy preferences. These characteristics also make this study different from other studies of the long-term effects of deliberative exercises and other studies comparing public opinion poll results and opinions expressed by participants in a deliberative exercise.

Citizens' Input

Rowe and Frewer (2005) examine 100 different approaches to involving citizens in the decision-making process, including public opinion polls and citizen panels. Citizen panels stand out as among the most intensive forms of citizen engagement in policy decisions (Rowe & Frewer, 2005). These types of citizen engagement exercises involve choosing a large and representative sample of ordinary citizens to meet several times to discuss policy options and conclude with some form of

opinion aggregation, such as a vote on policy options (Rowe & Frewer, 2005; Fournier et al., 2011). The decision to form a citizen panel is based on the premise that ordinary citizens are capable of making difficult policy decisions if they are given sufficient time and resources (Fournier et al., 2011; French & Laver, 2009; Smets & Isernia, 2014).

The case for divergence

Citizen panels address many perceived shortcomings of public opinion polls. As part of the deliberative process, citizens are presented with an abundance of quality information, discuss the information, and deliberate on different policy options before aggregating views into a vote, report, or some aggregation of policy preferences. This process is expected to produce more reasoned and informed opinions that can be used as critical input into decision-making about public policies. Some scholars argue that these types of initiatives can produce better and more legitimate policy decisions (Dyck & Lascher, 2009; Nabatchi, 2012; Strandberg & Grönlund, 2012).

While citizen panels are expected to produce policy preferences that are more informed and reasoned, do they produce *different* policy preferences than those expressed in a large random sample poll? Farrar et al. (2010) suggest that panelists' opinions are those "opinions people would hold if they knew and thought more about the issue" (p. 333–334; also see Luskin, Fishkin, & Jowell, 2002, p. 458). In this sense, the deliberative process is expected to change participants' policy preferences (Azmanova, 2011; Barabas, 2004; Farrar et al., 2010; Fishkin & Luskin, 1999; Fournier et al., 2011; Hall, Wilson, & Newman, 2011; Strandberg & Grönlund, 2012). Scholars characterize these new opinions in a variety of ways, including "sophisticated" (Gastil & Dillard, 1999), "meaningful" (Pincock, 2012), "considered" (Luskin et al., 2002), and "informed" (Azmanova, 2011; French & Laver, 2009; Gastil, Knobloch, & Kelly, 2012; Hall et al., 2011; Smets & Isernia, 2014).

Research has shown that if the participants are expected to produce a shared written statement about their preferences, the changes in policy preferences are even more pronounced than if they were merely asked to vote on different policy options after the deliberation (Strandberg & Grönlund, 2012). Strandberg and Grönlund (2012) found that opinions changed, comparing pre- and post-deliberation responses for the group that wrote a summary statement after the deliberation. In contrast, there were no significant differences in policy preferences for the group that merely voted for different policy options after the deliberation (Strandberg & Grönlund, 2012). The authors explain that the report-

writing tasks required more time, effort, and attention to the opinions of the whole group, which enhances the opinion-changing process (Strandberg & Grönlund, 2012). Report-writing may also encourage participants to develop a consensus, instead of holding on to disparate opinions. As such, in deliberations that end with report-writing, we might expect aggregate changes in preferences regarding one or more policy options.

The case for convergence

Existing theories of deliberation explain how opinions become more reasoned, informed, and logical, but these theories do not claim that support for particular policies will necessarily differ from public opinion poll results (Dyck & Lasher, 2009; Luskin, Fishkin, & Jowell, 2002). Do more informed opinions lead to greater or lesser support for different policy options? This paper explores the trajectory of panelists' policy preferences to examine whether they are diverging from or converging toward poll results. Our findings suggest a pattern of convergence. Over the course of the deliberation and the period after the deliberation, panelists' views became more similar to poll respondents in some policy areas.

Existing research documents changes in policy preferences by measuring opinions immediately after the deliberative event (e.g., Azmanova, 2011; Barabas, 2004; Farrar et al., 2010; Fournier et al., 2011; Luskin et al., 2002; Strandberg & Grönlund, 2012). Most studies of deliberative events focus on opinion change among the participants in a deliberative exercise. These studies documented small changes in policy preferences when comparing deliberative participants at different points in time (Azmanova, 2011; Hall et al., 2011; Luskin et al., 2002). For example, using five policy indices to measure aggregate changes in policy preferences, Luskin et al. (2002) found changes between three and six percentage points for pretest versus post-test results (see page 477). Azmanova (2011) examined 12 different attitude questions; most of the aggregate changes were between one and four percentage points. Hall et al. (2011) compared average levels of support for five policies related to energy options and found only one significant difference between participants' views at different points in time. Barabas (2004) showed an increase in support comparing pretest and post-test responses in one of the three policy questions. In sum, these studies found small changes in policy preferences as a result of participation in a deliberative event.

In contrast, Farrar et al. (2010) showed significant differences in seven of nine policy areas. They also found that in two policy areas, support decreased after the deliberative event. French and Laver (2009) found significant differences in all

seven policy areas; again, they showed opinion changes indicative of a decline in policy support. Using self-reported changes in policy preferences, rather than a pre/post-test design, Knobloch, Gastil, Reedy, and Cramer Walsh (2013) found differences in both policy areas. These set of studies found significant changes in policy preferences after the deliberative event and documented a decline in support in some policy areas.

These studies do not examine whether policy preferences endure in the long-term. While some suggest that attitude changes will remain over time, others argue that the changes are temporary (Andersen & Hansen, 2007; Hall et al., 2011; Hansen & Andersen, 2004). The deliberative process may produce more "coherent and consistent opinion structures…that are resistant to impulses from the outside…lead[ing] to more stable opinions" (Hansen & Andersen, 2004, p. 270). Alternatively, the opinion changes could be temporary. Hall et al. (2011, p. 5) explain that "information which seemed compelling at the time is forgotten, leading people to revert to their original attitudes. Or as people return to their usual social groups, information sources, and daily lives, their 'new' attitudes may fade over time." Hansen and Andersen (2004) echo this explanation and add that the deliberative exercise may have produced a temporary bandwagon effect, which disappears a few months after the deliberation. The few studies examining long-term effects have found little evidence of enduring effects (Andersen & Hansen, 2007; French & Laver, 2009; Hall et al., 2011; Hansen & Andersen, 2004). In this line of research, panelists' views are expected to converge with broader public opinion after an extended period of time. The deliberation may have produced a temporary change, but after an extended period of time, panelists will revert back to views that are in line with broader public opinion.

In summary, this paper will explore three research questions: To what extent do panelists' policy preferences change as a result of deliberation? To what extent are these changes enduring? How do the panelists' policy preferences compare to citizens' preferences expressed in a large, random sample public opinion poll?

Case Study

The Citizens' Panel on Edmonton's Energy and Climate Challenges originated with Alberta Climate Dialogue (ABCD), a university-community research organization formed to set up public discussions about climate change in the province of Alberta. Climate change is a particularly contentious issue in the province, which depends on the oil and gas industry as a major driver of the economy. In 2012, the Citizens' Panel was formed in partnership with the City of

Edmonton's Office of Environment and the Centre for Public Involvement (CPI) (see Kahane & MacKinnon, 2015).

Sixty-six participants were recruited to participate in the panel using stratified random digit dialing. While the number of participants may seem small compared to other major deliberative projects, our population size is much smaller in scale compared to those projects. For example, the National Issues Convention recruited 459 participants to represent the entire population of the United States (Merkle, 1996). As another example, 363 participants were selected to represent 27 EU countries (Azmanova, 2011). Luskin et al. (2002) have a group of 301 participants to represent England.

Sixty-six panelists were recruited to represent a population of 812,200 (Statistics Canada, 2012). Panel attrition over the six Saturdays reduced the number of participants from the recruitment stage (n=66) to the final meeting date (n=55). The size is not unusual (see Table 1), but it does prevent an analysis of subgroups whose opinions may have changed in different ways, e.g., do climate deniers or those with higher education have smaller opinion changes? Compared to other mini-publics of similar length (e.g., Knobloch et al., 2013), the size of the mini-public is large.

Table 1: ***Summary of Research Designs***

Author	Size of mini-public	Length	Topic	Pre-post design (yes/no)	Control group (yes/no)
Azmanova, 2011	363	weekend	social and economic policy in the EU and EU enlargement	yes	no
Barabas, 2004	157	five hours	social security policy reforms	yes	yes
Farrar et al., 2010	133	weekend	airport and property taxes for commercial development	yes	no
French & Laver, 2009	49	one day	waste incineration in Ireland	yes	yes
Hall, Wilson & Newman, 2011	61	one day	energy use, efficiency and conservation	yes	yes
Hansen & Andersen, 2004	364	weekend	Denmark's adoption of the euro	yes	yes
Knobloch et al., 2013	24	five days	health (marijuana)	no	no
Knobloch et al., 2013	24	five days	crime	no	no
Luskin et al., 2002	301	weekend	crime and criminal justice in England	yes	no
Strandberg & Grönlund, 2012	79	two hours	energy policy	yes	yes

The panelists spent 42 hours over six Saturdays (October 13-December 1, 2012) at the University of Alberta. Panelists discussed their values, heard different perspectives about Edmonton's climate and energy challenges, evaluated different policy options for addressing these challenges, and decided on recommendations for proposed policies (Centre for Public Involvement et al., 2012). At various points during the plenary meetings, anonymous group polling was carried out using iClickers to gauge panelists' opinions. Results were displayed immediately on screen for the panelists to see how others were positioned on the issues. Through this process, panelists received feedback on the overall preferences of the group.

On the last day of the deliberation, the group of 55 panelists voted on policy statements that were to become the focus of the recommendations. The group of 55 drafted the statements that would form the basis of the Final Report. A group of eight panelists volunteered to write the detailed rationales associated with each policy statement. This group met five additional times to write and edit the report, with the assistance of ABCD and CPI. The Writing Group circulated drafts to the entire panel twice for feedback in December 2012 and January 2013 to ensure that it adequately captured the opinions of the panel as a whole (Centre for Public Involvement et al., 2013). The report was finalized in the latter part of January 2013 and sent out to the panelists. The report was then sent to the Executive Committee of City Council and was released to the public in April 2013 before an Executive Committee meeting in which the report was to be discussed. The report and Council meeting received almost no attention in mainstream media and very limited coverage in social media (Kahane & MacKinnon, 2015). The Panel's recommendations seem to have discernible influence on the Energy Transition Strategy developed by City Administration, and the Citizens' Panel was invoked repeatedly when the Energy Transition Strategy was deliberated upon and passed by Council in 2015 (Hanson, 2018; Kahane, 2018).

Our case study differs from many other deliberative events in several ways. First, our deliberative event included city officials in the process of organizing and involved City Council members (decision-makers) as close observers. Second, the deliberative exercise concluded with a report and this report was presented to City Council, rather than concluding with mere vote aggregation and no formal recognition by policy-makers. Third, the length of the Citizens' Panel provided more opportunities for information exchange and discussion than many other events. Most citizen panels last one weekend or less (Table 1). All of these characteristics of the Citizens' Panel make it an interesting case study about how deliberation affects policy preferences. These characteristics also make this study distinctive from other studies of long-term effects (Andersen & Hansen, 2007;

French & Laver, 2009; Hall et al., 2011; Hansen & Andersen, 2004) and other studies using public opinion poll results (Barabas, 2004; Fishkin & Luskin, 1999; Luskin et al., 2002; Merkle, 1996; Strandberg & Grönlund, 2012).

Method

The Population Research Lab at the University of Alberta was hired to conduct a random digit dialing (RDD) survey to assess Edmontonians' policy preferences. Data collection occurred in June and July 2013. The AAPOR Response Rate #1 is 10.76%. This response rate is typical of public opinion surveys in Canada (Kermalli, 2013) and the United States (Pew Research Center, 2012). We compare the results of this public opinion poll to views expressed by members of the Citizens' Panel on Edmonton's Energy and Climate Challenges.

Members of the Citizens' Panel were asked to participate in a variety of surveys. As part of the recruitment process, potential participants were called and asked to complete a short telephone survey. The purpose of this survey was to ensure a diversity of opinions and to ensure that quotas were filled around age, education, gender, ethnicity, ward, income, employment in energy sector, and views about climate change. Participants were informed about the Citizens' Panel and asked about their interest in participating in the panel (for more details, see Boulianne, 2018a). If they expressed interest, they were sent a web survey (pretest) with a variety of questions, including knowledge about the topics being deliberated, their policy preferences, and beliefs about the roles of various levels of government regarding climate change. On the last meeting day, participants completed a printed survey that repeated select questions from the recruitment survey and the pretest survey. The focus of the last day was on writing policy statements that would form the basis of the Final Report.

Panelists were surveyed during June and July 2013 to ask their views about the report as well as to repeat select questions from prior surveys, using a mixed mode survey design (web survey, followed by a print survey for late responders). The six month follow up survey coincided with the public opinion poll conducted by the Population Research Lab. The timelines facilitate a comparison of post-event opinions to public opinion survey data. The comparison is akin to comparing a control group (poll respondents) to an experimental group (panelists). However, this design is distinctive in assessing enduring opinion changes as a result of the deliberative exercise, instead of opinions gathered immediately after the deliberation. The analysis is based on a series of two-tailed t-test calculations of two group means (unequal variance assumed).

Table 2 compares the panelists as selected, panelists who completed the surveys, the poll respondents and the profile for the community. There are no statistically significant differences between the panel who responded to the survey (n=49) and the community profile (at the p <.05 level). There are no statistically significant differences between the panel who responded to the survey (n=49) and the poll (at the p <.05 level). The poll respondents differ from the community profile in terms of education, age, and home ownership. However, other analysis of this poll data suggests that policy preferences do not differ based on home ownership or age (Boulianne, 2018b). As such, the data are not weighted on these variables. The polling data are weighted based on education estimates provided by the National Household Survey (Statistics Canada, 2013).

Table 2: ***Demographic Comparison between Panelists and Public Opinion***

	Panelists who responded to the surveys	Panelists who were recruited for the project	Public opinion poll, 2013	Community profile for 2011
Percentage of females	53.5%	51.5%	50.1%	50.1%
Percentage who home owners	80.5%	76.2%	77.6%	70.6%
Average household size	2.4	2.5	2.5	2.4
Age:				
18 to 29	27.9%	25.8%	11.0%	25.3%
30 to 39	16.2%	15.1%	16.1%	18.9%
40 to 49	11.6%	15.2%	17.1%	17.9%
50 years and over	44.2%	43.9%	55.9%	37.8%
Education:				
High school or less	30.2%	28.8%	17.0%	37.5%
Some college or university	34.9%	30.3%	36.0%	32.8%
University degree or certificate	34.9%	40.9%	47.0%	29.7%

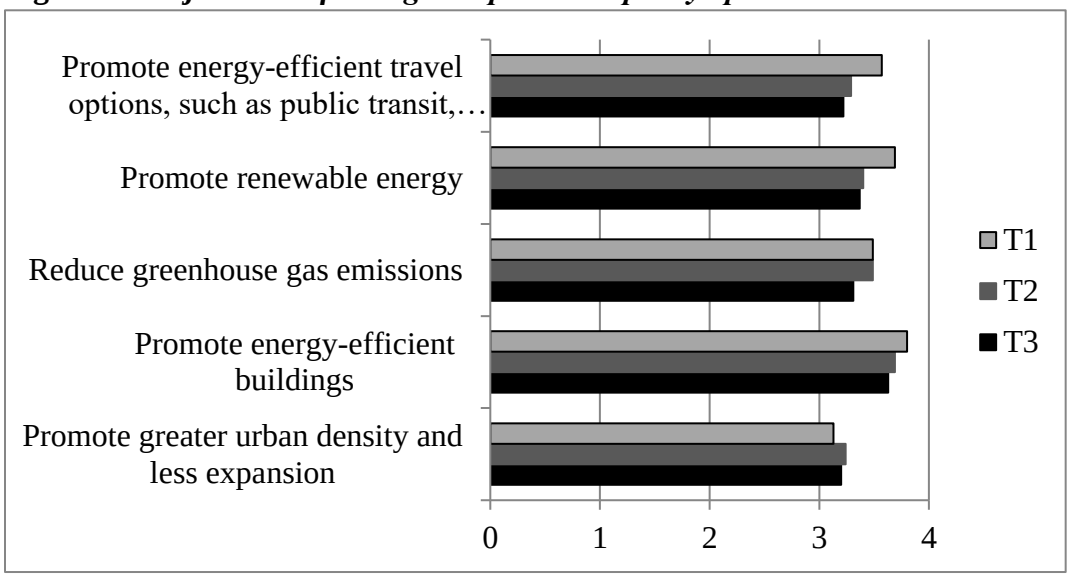
Note: The community profile is based on a number of Statistics Canada sources, including the Census and the National Household Survey (Statistics Canada 2012, 2013).

Results

In terms of energy-efficient travel options and promoting renewable energy, deliberative participants' views changed by the end of the deliberative event and

this change endured six months after the deliberation (Figure 1). In both policy areas, average levels of support decreased, on average, from the pretest (T1) to the post-test conducted at the end of the deliberative event (T2) and remained lowered at the post-test six months after the end of the deliberative event (T3).

Figure 1: ***Trajectories of changes in panelists' policy opinions***



Specifically, support for energy-efficient travel options began with an average of 3.57 on the four-point scale. In the two surveys after the event, level of support was lower, on average, compared to prior the event (3.57 to 3.29 and 3.22). For policies to promote renewable energy, support began with an average of 3.69, then decreased to an average of 3.40 and 3.37 on the four-point scale. Table 2 outlines the tests of significance and the magnitude of changes in policy support across the three points in time and in comparison to the poll results.

For policies to promote renewable energy, the opinion change related to the deliberative event brought panelists' views more in line, on average, with broader public opinion. Specifically, poll respondents' average level of support was 3.26 on a four-point scale, whereas panelists' average level of support was 3.69 prior to the deliberation, but six months after the deliberation the average level of support was 3.37 on a four-point scale. The same pattern occurs with energy-efficient travel options. Specifically, poll respondents' average level of support was 3.27 on a four-point scale, whereas panelists' average level of support was 3.57 prior to the deliberation, but six months after the deliberation the average level of support was 3.22 on a four-point scale. Looking at the surveys conducted

during June and July 2013, there are no significant differences between panelists and poll respondents in either policy area (Table 2).

For policies to reduce greenhouse gas emissions and promote energy efficient buildings, the deliberation did not produce significant changes in participants' views (Figure 1, Table 2). However, for these two policy areas we see a similar pattern as that observed for energy-efficient travel options and renewable energy. Support for policies around energy-efficient buildings and reducing greenhouse gas emissions are decreasing (Figure 1) and moving toward poll results (Table 2). Despite the trajectory, poll respondents and panelists' views differed significantly around promoting energy efficient buildings (3.36 versus 3.63) as assessed in the simultaneous surveys. In all four of the above policy areas, the panelists began the process (September-October 2012) with higher average levels of support, compared to the poll results (June-July 2013). These differences were significant (Table 2).

In terms of policies promoting greater urban density and less expansion, we see a distinct pattern. The two simultaneously conducted surveys show poll respondents' average level of support was 2.89 on a four-point scale and panelists' average level of support was 3.20 (Table 2). Unlike the other policy domains, the trend data do not suggest that panelists' views are becoming more similar to poll respondents. The panelists' views remain distinctive and unchanged during the three points of data collection (Figure 1).

Table 3: ***Policy Preferences for Panelists and Public Opinion Poll Respondents***

	T1 Sept-Oct	**T2** Dec	**T3** June-July	**Poll** June-July	**T1 vs. T2**	**T1 vs. T3**	**T2 vs. T3**	**T3 vs. Poll**	**T2 vs. Poll**	**T1 vs. Poll**
Promote energy-efficient travel options, such as public transit, cycling, or walking	3.57 (0.695)	3.29 (0.707)	3.22 (0.927)	3.27 (0.671)	*d* = 0.28 ***p* = .057**	*d* = 0.35 ***p* = .047**	*d* = 0.07 *p* = .684	*d* = 0.05 *p* = .726	*d* = 0.02 *p* = .851	***d* = 0.30** ***p* = .007**
	n = 44	*n* = 49	*n* = 45	*n* = 394						
Promote renewable energy	3.69 (0.563)	3.40 (0.736)	3.37 (0.853)	3.26 (0.684)	*d* = 0.29 ***p* = .037**	*d* = 0.32 ***p* = .039**	*d* = 0.03 *p* = .856	*d* = 0.11 *p* = .401	*d* = 0.14 *p* = .212	***d* = 0.43** ***p* < .001**
	n = 42	*n* = 48	*n* = 46	*n* = 366						
Reduce greenhouse gas emissions	3.49 (0.592)	3.49 (0.688)	3.31 (0.701)	3.22 (0.736)	*d* = 0.00 *p* = 1.00	*d* = 0.18 *p* = .196	*d* = 0.18 *p* = .217	*d* = 0.09 *p* = .418	***d* = 0.27** ***p* = .012**	***d* = 0.27** ***p* = .006**
	n = 43	*n* = 47	*n* = 45	*n* = 377						
Promote energy-efficient buildings	3.80 (0.408)	3.69 (0.512)	3.63 (0.572)	3.36 (0.615)	*d* = 0.11 *p* = .256	*d* = 0.17 *p* = .107	*d* = 0.06 *p* = .594	***d* = 0.27** ***p* = .003**	***d* = 0.33** ***p* < .001**	***d* = 0.44** ***p* < .001**
	n = 44	*n* = 48	*n* = 46	*n* = 370						
Promote greater urban density and less expansion	3.13 (0.939)	3.24 (0.778)	3.20 (0.806)	2.89 (0.819)	*d* = 0.11 *p* = .555	*d* = 0.07 *p* = .714	*d* = 0.04 *p* = .806	***d* = 0.31** ***p* = .015**	***d* = 0.35** ***p* = .004**	*d* = 0.24 *p* = .122
	n = 40	*n* = 49	*n* = 46	*n* = 346						

T-test of group means (unequal variance). Two-tail tests. Survey questions in all surveys: To what extent would you agree or disagree with the following City policies for making Edmonton a sustainable city? Response options offered were: Strongly disagree, disagree, agree, strongly agree. Sample sizes for specific questions vary because "don't know" responses were excluded from analysis. Time 1 is before the deliberation (September/October 2012). Time 2 is immediately after the deliberation (December 2012). Time 3 is six months after the deliberation (June/July 2013). The Poll was conducted in June/July 2013. Poll data are weighted based on education to match the community profile.

Conclusion

This study presents an innovative research design, which includes a post-test control group, to examine the enduring effects of deliberation. Using this approach, we offer distinctive findings about whether a deliberative event had an effect on participants, whether this effect was enduring, and how public opinion polls compare to views expressed by participants in a deliberative event. In line with existing research (Azmanova, 2011; Hall et al., 2011; Luskin et al., 2002), in three of the five policy areas, we find minimal changes in panelists' views at different points in time. However, there are significant differences in two of the five policy areas: policies to promote energy-efficient travel options and renewable energy. The differences, though, are in terms of the magnitude of support for these policy changes. Few people disagreed with the policy options, what did change was the magnitude of the agreement with the proposed policies. For example, people tended to give full support (strongly agree) to a policy before the deliberative event, then more tempered, but still agreeable, policy support after the deliberative event.

Why do we observe changes in this panel's views on these two policy options? The long duration of the deliberative event makes this project distinct from many other deliberative exercises (Table 1). Panelists participated in 42 hours of learning about the issues and policy options as well as discussing the different policy options. Furthermore, unlike many other deliberative events, panelists did not merely vote on policy options, they participated in crafting the wording of recommendation statements to appear in a report. The report-writing task might explain the changes in views (Strandberg & Grönlund, 2012). The two features, length and report-writing, are important for changing panelists' views in the short and long-term. These design features are not common in existing deliberative projects. Further research should isolate which factor is most important for impacting changes in participants' views.

Are the effects of deliberation enduring? French and Laver (2009) suggest that the effects of opinion change are temporary, offering findings based on a nine-month follow-up of panelists and a post-test control group. In our study, the effects were enduring in the two policy areas where there were significant changes due to the deliberation. The changes in opinions as a result of deliberation brought panelists more in line with broader public opinion. As mentioned, Hall et al. (2011, p. 5) expects that changes in opinions would be temporary and people would "revert to their original attitudes" as they returned to their usual social groups, information sources, and daily lives. However, in this deliberative process, participants did not revert to their original opinions. In this case, a change back would have involved

enthusiastic support for the proposed policies. If poll results are any indication, these social groups and information sources are more critical of policy options. As such, the return to these sources would reinforce these new critical perspectives, rather than counteract them. The deliberative process seems to produce more critical perspectives about the trade-offs related to each proposed policy solution in contrast to views prior to the deliberative process.

Citizen panels are expected to produce policy preferences that are of better quality than those expressed in public opinion polls and public opinion polls are expected to be based on a lack of information and illogical reasoning. Based on the analysis of panelists' views at three points in time, we find that the deliberative event and the six month period after the deliberative event moves panelists' views towards poll results. In other words, there is a pattern of convergence. The policy domains are energy efficient travel options, promoting renewable energy, and reducing greenhouse gases. When comparing poll data and panelists' responses, we find in three of the five policy domains panelists' aggregate views were becoming more similar to poll respondents over time. The pattern is also evident in a fourth policy area, energy-efficient buildings, but the deliberative process did not close the gap in views. Our strongest evidence lies in the data related to policies to promote renewable energy. Over the course of the deliberation event, panelists' opinions changed, making their opinions about renewable energy more consistent to those of poll respondents. This convergence in the opinions of the two groups was the result of opinion changes among panelists during the deliberation. In this case, the consistency between public opinion and post-deliberation views of the panelists translate into decreased (though still positive) support for these policies to address Edmonton's energy and climate challenges.

What are the implications of such findings? The findings suggest that deliberation could temper enthusiasm around specific policy proposals: if the public, or perhaps a subgroup within the public, has strong support for a policy initiative, a deliberative event might change views about this policy initiative. This finding is not without precedent, but similar findings are not widely attended to in the literature. For example, Hall et al. (2011) offer a similar research design and examine similar policy areas as in the current study. In three of the five policy options, support for the policies decreased between the pretest and post-test as well as between the immediate post-test to the delayed post-test. They asked about policies related to renewable energy and observed an identical pattern as our study: support dropped from 4.1 at the pretest to 3.8 at the delayed post-test. More dramatically, support for conservation and efficiency, which is similar to our two questions about energy efficiency, dropped from 4.2 to 3.6. At the very least, the deliberative event might encourage more critical thinking about the

advantages and disadvantages of particular policies. This mainstreaming of policy preferences is not discussed in the literature, but should be considered as a possible outcome of deliberation. This mainstreaming process occurred in three of the five policy domains. These policy domains were also the most widely supported policy options, suggesting that the pattern of effects may be restricted to high consensus issues.

As mentioned, urban densification was different from other policy areas. Among the policies considered, this policy had the lowest level of support among panelists and poll respondents. This distinctive pattern of opinion change and difference from poll results points to the value of deliberative exercises. A deliberative exercise can help illuminate the advantages and disadvantages of this proposed policy, whereas opinion polls may produce immediate discounting. This proposed policy is one of the most contentious of the five policy options. In February 2013, 28 community leagues sent a letter to City Council asking them to halt approvals of splitting residential lots to allow more duplexes (Stolte, 2013; also see Kent, 2013; Mertz, 2013). Through the deliberative process, participants can learn about how this policy can address energy and climate issues, leading to more favourable attitudes. We suspect that if other contentious policies were discussed, the pattern of divergence between deliberative participants and public opinion would be replicated. The value of deliberation may be in giving contentious policy issues more serious consideration than they would get with poll responses; this may have been reflected as well in the cogency of arguments on behalf of recommendations reflected in the final report and in testimony by panelists to Executive Committee of City Council. The convergence or divergence of aggregated panelist opinions with public opinion does not itself speak to the coherence of reasons or justification for these opinions.

The research design could be improved by the inclusion of poll results at each of the three-waves of data collection for the panelists. While three-wave poll results are not found in the literature, this design would help assess whether the trajectories of decreased policy support also exist in the broader public. These additional polls would also clarify the patterns observed between poll responses and pretest responses (the last column of Table 2). The differences in results could be explained by differences by time (one survey was conducted in September/October 2012, while the other was conducted in June/July 2013). Alternatively, the differences may be explained by self-selection bias. Were the participants who agreed to participate different from people who did not participate? Were the participants who agreed to participate unusually enthusiastic about any kind of policy intervention to address climate and energy issues? Our design cannot rule out either interpretation. We suggest further research on

participant bias and its impact on the outcomes of deliberation. In addition, further research should invest in polling work to coincide which each panelist survey, which will help explain the trajectory of changes. Further research should examine how the trajectories of opinion changes differ by subgroup. Are those participants with higher levels of education more or less likely to change their policy views as a result of participation in a citizen panel? Are those participants who deny the existence of climate change more or less likely to change their policy views as a result of a deliberative process?

We see a further set of important research questions around what design features affect participants' changes in their policy views? The length of the deliberative event and report-writing feature seem to be important features, but deliberative events with these features are rare. In addition, this study illustrates patterns of convergence and divergence with broader public opinion measured through polling data. The results presented suggest that opinion changes and differences from poll results depend on the *specifics* of each policy. A deliberative process might give contentious policy issues more serious consideration than they would get with poll responses. These and other key questions remain for researchers and practitioners of democratic deliberation.

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