Panel T07P03 Session 1

Expertise and Evidence in Public Policy

Title of the paper

Is Designing Evidence-based Evaluation for Deliberative Democracy Possible?: An Impossibility Result and the Proposal of the Issue-specific Theories of Deliberation

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Date of presentation

Thursday, June 29th 10:30 to 12:30
(Manasseh Meyer MM 2 - 2, National University of Singapore)

Abstract

Mutz (2008) has called for evidence-based evaluation of deliberative democracy that allows for utilising evidence from empirical research for both practice and normative research. In this paper, it is conversely proposed that amalgamating varieties of evidence-based evaluations does not allow for determining whether certain procedures and institutions lead to fruitful deliberation. This conclusion is derived from Sen's (1970a; 1970b, 1976) liberal paradox argument in social choice theory and is especially crucial for researchers and practitioners because it suggests that they hardly utilise empirical evidence to evaluate/select appropriate forms of citizens' deliberative participation in public policy. To alleviate the problem, 'issue-specific theories of deliberation' that allow researchers and practitioners to have specifiable norms and policy goals across contexts are proposed. This paper describes the ways the specification of normative arrangements across contexts facilitates evidence-based policy in deliberative democracy.

Keywords

1. Introduction

1.1. Motivations

The recent systematic reviews of deliberative mini-publics methods aimed to provide 'the relative usefulness of different deliberative techniques', such as citizens' juries and deliberative polling for public policies, and 'the nature and impact of these adaptations' (Degeling, Carter, and Rychetnik, 2015, p. 114; Street et al., 2014, p. 1). Researchers of deliberative democracy are engaged in identifying appropriate methods for citizen participation in each policy domain based on trustworthy evidence through systematic reviews of accumulated empirical evidence on deliberation (Abelson et al., 2003, Abelson et al., 2013; Friess and Eilders, 2015). Systematic reviews of qualitative studies also benefit policymakers and stakeholders (Lavis, 2009). The underlying issue for researchers and policy designers regarding citizen deliberation for public policies is how to choose appropriate methods for citizen deliberation that result in preferred outcomes and legitimacy for each policy domain.

Since the early development of mini-publics in the 1970s, such as planning cells and citizens' juries, implementation research on deliberation has proposed a variety of mini-publics methods, including consensus conferences, deliberative polling and participatory budgeting. Deliberative mini-publics (simply, mini-publics) refer to self-consciously organised public deliberations with limited numbers of randomly selected participants (Fung, 2003, pp. 338–39). As promising methods used for democratic innovations, a variety of mini-publics methods have been implemented across the globe (Smith, 2009)[1].

Since the 2000s, empirical tests on the causal relationships of deliberation have been conducted by researchers (Fishkin and Luskin, 2005; Jacobs, Cook and Delli Carpini 2009; Smith, 2009; Steiner, 2012; Setälä and Herne, 2014). In her article 'Is Deliberative Democracy a Falsifiable Theory'?, Mutz (2008) called for an evidence-based evaluation of deliberative

democracy that would allow researchers and practitioners to develop a scientifically productive deliberative theory. Following what she called the 'textbook' orthodoxy of good empirical research, she encouraged researchers to (1) streamline the conditions of deliberation down to their essential elements, (2) accumulate empirical evidence (causes and effects) by testing and (3) evaluate methods of deliberation, including other public decision-making methods such as voting, based on empirical evidence of the functions of deliberation that normative theorists anticipate (Mutz, 2008, p. 524). This call for an evidence-based evaluation of deliberative methods requires collaboration between normative, empirical and implementation research on deliberative democracy.

1.2. Can evidence-ranking schemes aid the textbook orthodoxy of empirical research for deliberative democracy?

Evidence-ranking schemes of evidence-based policy seem to realise Mutz's 'textbook' orthodoxy of good empirical research. Because an unstructured list of evidence is not useful to practitioners, evidence-ranking schemes can provide effective schemes for structuring evidence. Evidence-based policy (EBP) involves determining which types of evidence should be prioritised against other types of evidence (Caze and Colyvan, 2017, p. 3). The major issues of EBP include identifying appropriate methods for utilising evidence for policy making, establishing standards for evidence and identifying the varieties of influences that affect the utilisation of evidence in public policy[2]. Randomised control trials (RCTs), which are originally used in medicine, are prominent examples of evidence-ranking schemes of EBP. The stylised example of EBP classifies evidence based on the trustworthiness of the method through which evidence is gained. EBP using RCTs prioritises evidence with scientific trustworthiness (Cartwright and Hardie, 2012, p. 38), and the recommendations are as follows (Cartwright and Hardie 2012, p. 136):

1. Evidence-ranking schemes. These say, for example, that the best evidence for a policy is a systematic review or a meta-analysis of well-conducted RCTs. And they go on to list other types of evidence in descending order. This does not of itself tell you what to do.

2. Advice guides. These say, for example, that you should choose a policy that is backed by good evidence, using the rankings in the schemes. This does not tell you which policies these are.

3. Warehouses. This is where you find policies backed by good evidence. The managers of the warehouse have only put onto the shelves policies that have met that test.

They enable the use of a bottom-up method for meta-ranking of evidence based on the trustworthiness of each piece of evidence.

Critics have argued that all-purpose standards for good evidence in experimental settings are not available for policy settings (Caze and Colyvan, 2017, p. 1). While evidence can be obtained from previous empirical research on mini-publics, the evidence may not ensure the desired outcomes in other cases (Cartwright and Hardie, 2012). This is because RCTs do not consider the support factors required for the causal mechanisms that allow policies to be effective (Cartwright and Hardie, 2012, p. 157).

An advantage of mini-publics research is that its experimental method allows researchers and practitioners to control several factors within deliberation (Setälä and Herne, 2014). The implementation of deliberative mini-publics employs artificial deliberation settings. The artificial settings allow for the experimental treatment of participants, information, discussions,

agendas, etc. While such treatment is not possible in all cases, it helps to ensure that certain implementation designs and methods for mini-publics obtained from previous cases 'play a positive causal role here and that the support factors for it to operate are fulfilled here' (Cartwright and Hardie, 2012, p. 135). As a result, the extrapolation problem of evidence in mini-publics research can be alleviated. If so, the 'prediction of effectiveness' in the mini-publics methods becomes possible for public policy designers in facilitating citizen deliberation for public policy (Cartwright and Hardie, 2012, p. 5). Consequently, the concept of evaluating mini-publics methods based on evidence is worth pursuing.

Nevertheless, in the sociology literature, research on the possibility of an evidence-based functional evaluation of social states showed that an evaluation based on the amalgamation of multiple evidence-based functional evaluations is impossible (Tashiro, 1983; Shida, 1984). This argument is partly derived from Sen's (1970a, 1970b, 1976) well-known liberal paradox framework of the social choice theory. The liberal paradox is an example of a logical impossibility based on the conflict between unanimous agreement (Pareto principle) and privilege of liberal rights. Recently, the paradox has been newly interpreted as a conflict between common knowledge and expert rights (Dietrich and List, 2008; Herzberg, 2017). Several traditional solutions for the paradox are possible when either the Pareto principle condition or the liberal rights condition is relaxed. However, they are not suitable for an evidence-based evaluation of the methods of mini-publics because they encounter various difficulties including the incredibility of assumption which requires agency to evidence, an ad-hoc interpretation of evidence and a limited range of applicability. This demonstrates the need for further investigations to answer the question of whether or not researchers and public policy designers can choose well-functioning methods for mini-publics based on the accumulation of empirically tested evidence to ensure the effectiveness of deliberation in mini-publics when there are multiple pieces of trustworthy evidence available.

1.3. Research question

This paper argues that Mutz's (2008) proposal shares the similar logical structure of a liberal paradox; however, no other researchers, including Mutz (2008), considered the possibility of an evidence-based functional evaluation of the methods of deliberation from a formal perspective. This paper presents a critical investigation of the possibility of an evidence-based functional evaluation for the methods of mini-publics based on multiple pieces of trustworthy evidence. Although this paper discusses Mutz's (2008) proposal as an example of the theoretical anticipation, the following discussion should not be attributed solely to Mutz's proposal.

The research question of this paper is as follows:

Can researchers and public policy designers develop a consistent evaluation of the methods of mini-publics by amalgamating the varieties of evidence-based functional evaluations of deliberation?

This paper examines the research question as follows. Section 2 introduces the analogical reasoning between an evidence-based functional evaluation and Sen's liberal paradox as a methodological framework. The similarity of the logical structure between an evidence-based functional evaluation of mini-publics and a liberal paradox is illustrated. In section 3, using an example and a social choice theoretical formal analysis, the logical impossibilities of evidence-based functional evaluation of mini-publics are shown. In section 4, as a solution for the impossibility, the applicability of the traditional solutions of the liberal paradox for an evidence-

based evaluation of mini-publics is evaluated, and the issue-specific theories of deliberation are proposed. The effectiveness of the proposal is also investigated. In section 5, the implications of the proposal are discussed. Finally, the limitations and future research topics are described.

The impossibility result shown in this paper does not imply the denial of collaboration between normative, empirical and implementation research of deliberation nor an evidence-based evaluation of mini-publics. The purpose is to investigate one of the key concerns related to evidence use for mini-publics and to explore how to solve the problem.

1.4.   Four dimensions of the evidence used for research on mini-publics

To dispel confusion, at least four dimensions of the evidence used for research on mini-publics are distinguished. Each dimension has a unique significance. First, based on the empirical evidence of deliberation, researchers plan to facilitate the implementation of mini-publics in the future (Abelson et al., 2003, Abelson et al., 2013; Lavis, 2009; Street et al., 2014; Degeling, Carter, and Rychetnik, 2015; Friess and Eilders, 2015). This paper focusses on this dimension of research. The purpose of the investigation is to determine how to evaluate and choose appropriate methods of mini-publics for practitioners regarding public policy. To do so, a collaboration between different types of research for deliberative democracy is necessary.

Second, expert knowledge was utilised for mini-publics deliberation. Balanced information and communication with experts for participants during the deliberation process are utilised in several methods of mini-publics, such as deliberative polling, planning cells, citizens' juries and consensus conferences (Smith, 2009). Theoretical reflections on the collaboration between publics and experts are also provided (Christiano, 2012).

Third, the micro-macro link between mini-publics and formal public policy formation is discussed. Despite criticisms of the limitations of this 'integrated' approach, this view has been widely supported by researchers of deliberative democracy (Lafont, 2015, p. 41).

Finally, the normative theory is updated based on empirical evidence obtained through empirical research, including mini-publics research [3]. To test the normative theory of deliberation, mini-publics were used as samples for the experiments (Setälä and Herne, 2014, p. 63). Empirical evidence obtained from the experiments and other research was expected to update the theory of deliberation (Thompson, 2008, p. 498).

1.5.   Contributions of this paper

This paper is expected to contribute to three areas of research: theoretical, analytical and methodological. Theoretically, this paper proposes issue-specific theories of deliberation as a prescription for the logical impossibilities of evidence-based evaluations of the methods of mini-publics. In deliberative democracy research, grand-theoretical normative research and empirical research have been proposed; however, the normative theory of deliberation with a limited issue-specific scope has not been widely discussed (Bächtiger et al., 2010). This paper recommends that normative theorists redirect their attention to specialised versions of deliberation, such as the deliberative theory of nursing. It is argued that issue-specific normative arrangements and a value ordering formation scheme, known as the 'specification' method in applied ethics, is the starting point of the deliberative process of EBP. Interestingly, this argument is based on the social choice theoretical argument. The recommendation of this paper encourages collaboration between deliberative democrats and policy designers involved in deliberative democracy.

Analytically, this paper includes the first formal analysis of the possibilities of evidence-based evaluations for the methods of mini-publics. It shows that evidence-ranking schemes based solely on trustworthiness cannot sufficiently resolve the logical impossibilities of evidence-based functional evaluations of mini-publics methods. A critical analysis of the applicability of traditional solutions for the liberal paradox related to the impossibility of evidence-based evaluations for the methods of mini-publics is provided. One solution argues that if participants can be expected to have agency, there are viable solutions to the paradox (Sen, 1976); however, evidence cannot be expected to have agency. A viable solution to the paradox for the latter case is presented.

Methodologically, this paper expands the traditional framework of the liberal paradox for evidence-based evaluations of mini-publics methods through a new interpretation of liberal rights as a privilege of trustworthy evidence. A variety of reinterpretations of liberal rights have been proposed to date (Sen, 2002, p. 14 n.22). Recent research has discussed the conflict between expert rights and unanimous agreement based on a liberal paradox of a binary judgment aggregation setting, while this paper discusses the paradox of preference orderings in relation to evidence (Dietrich and List, 2008; Herzberg, 2017). There is no other application of the liberal paradox framework for evidence-based evaluations of deliberative democracy in the literature. Furthermore, this paper explicitly explains the method of application of the social choice theoretical framework for other research topics through analogical reasoning.

2.   Methodological framework

This paper suggests that the theoretical anticipation of evidence-based functional evaluations of the methods of mini-publics typically found in Mutz's (2008) proposal shares the similar

logical structure as the liberal paradox problem discussed by Sen (1970a; 1970b, 1976). Although originally discussed as a framework of privilege of liberal rights by social choice theorists, Sen suggested that its interpretation is open to other issues that share a similar logical structure (Sen, 1983, p. 9, 2002, pp. 3, 7, 29). For instance, based on the liberal paradox framework, the conflict between expert rights and unanimous agreement is discussed (Dietrich and List, 2008; Herzberg, 2017). Nevertheless, applications of the liberal paradox framework in relation to the possibility of collaboration between empirical research and practical research have not been discussed.

This paper interprets the privilege of liberty as a privilege of trustworthy evidence. In the same vein as Sen's (1970a; 1970b, 1976) logic related to the liberal paradox, the impossibility of forming a consistent evaluation of deliberative mini-publics methods by amalgamating evidence-based evaluations of deliberation is proposed.

As a methodological framework for a formal analysis, an analogical reasoning is introduced (Hesse, 1966, chap. 2). 'Analogy' refers to 'a comparison between two objects, or systems of objects, that highlight respects in which they are thought to be similar' (Bartha, 2013). According to Hesse (1966, p. 79), 'the nature of analogical argument in general, … if valid, carries over the *same* sense of causal relation from model to explicandum, in virtue of the relations between the characters which model and explicandum share'.

Figure 1 explains the logical similarity between Mutz's proposal and Sen's proposal, which was utilised for the analysis of this paper. The unknown result of Mutz's proposal was estimated based on the result of Sen's liberal paradox as a known model. This estimation is shown as '?' in Figure 1. The general structure of the analogy can be understood as a comparison of the two objects with different semantics that share the same syntax. For the formal analysis of this paper, the semantics of Mutz's proposal were translated into its syntax, and the syntax was compared

with the known model, i.e. Sen's liberal paradox. Accordingly, the negative results (cycles) obtained from the known model were applied to the results of the subject.
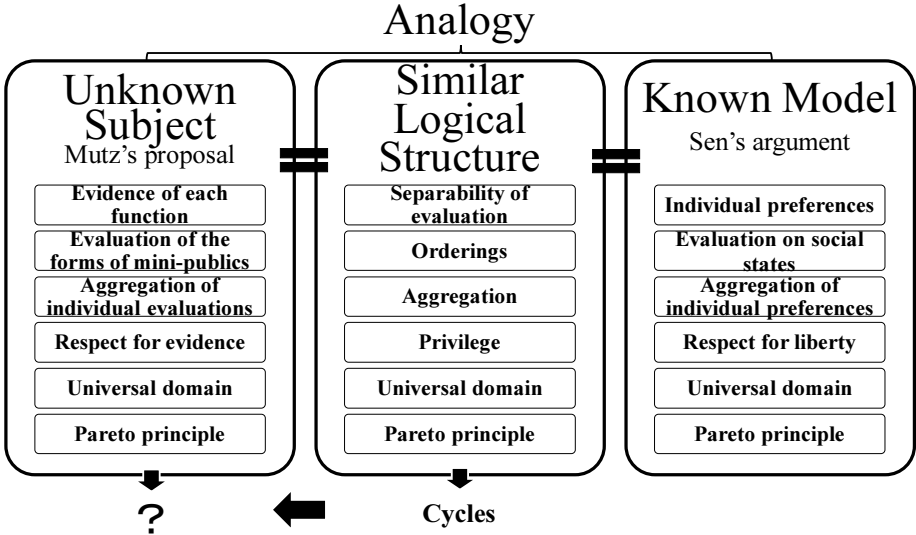
Analogy

Unknown Subject Mutz's proposal	Similar Logical Structure	Known Model Sen's argument
Evidence of each function	Separability of evaluation	Individual preferences
Evaluation of the forms of mini-publics	Orderings	Evaluation on social states
Aggregation of individual evaluations	Aggregation	Aggregation of individual preferences
Respect for evidence	Privilege	Respect for liberty
Universal domain	Universal domain	Universal domain
Pareto principle	Pareto principle	Pareto principle

? ← **Cycles**

Figure 1

The logical similarity between Mutz's proposal and Sen's proposal

The validity of analogical reasoning depends on the following. First, the similarities between model and explicandum. Second, a lack of differences in important factors and causal relationships are identified. Third, the model and explicandum must share the same scientifically acceptable causal relationships (Hesse 1966, pp. 86–87; Bartha 2013) [4] . Evaluation of similarities and differences in analogical reasoning depends on the researchers who engage in the analysis. It also depends on the understandability of the readers. Accordingly, the weakness of analogical reasoning is that its reasoning remains 'probable' (Hesse, 1966, p. 75), which is therefore a weakness of this paper. Furthermore, for readers to deem the proposed analogical reasoning acceptable, the mechanism of reasoning must be widely accepted by readers. To satisfy this criterion of a shared mechanism of reasoning, formal reasoning based

on the social choice theory was utilized in this paper. The case example assists in understanding the methodological framework.

3. The logical impossibilities of evidence-based evaluations

3.1. An example of the logical impossibilities of the evidence-based evaluations of mini-publics

Suppose there are alternative methods for mini-publics, as follows[5]:

D: Deliberative Polling

P: Planning Cell

C: Consensus Conference.

Next, suppose that there are standards for evaluations A, B and Γ, which are based on the expected functions (ideals) of deliberation[6]. 'A' refers to the function of the recognition of opposing opinions (Gutmann and Thompson, 2004). 'B' refers to the function of consensus formation (Cohen, 1989; Habermas, 1986). 'Γ' refers to the function of reason giving (Habermas, 1986, 1996). Assume that researchers have three pieces of evidence. Evidence α refers to the evidence of function A (Han, Schenck-Hamlin and Schenck-Hamlin, 2015; Steenbergen et al., 2003). Evidence β refers to the evidence of function B (Farrar et al., 2010; List et al., 2013)[7]. Evidence γ refers to the evidence of function Γ (Friberg-Fernros and Schaffer,

2014). Note that the abovementioned cited empirical research does not represent the entire literature related to each function of deliberation. It is quoted to provide a basic image for readers.

The evidence serves as an evaluation function of the methods of mini-publics. Let each evidence i's individual evaluation of the methods of mini-publics be R(i). Assume that three pieces of evidence make individual evaluations as follows:

$$R(\alpha): P > C$$

$$R(\beta): C > D$$

$$R(\gamma): D > P.$$

Note that these orderings do not represent the actual literature of deliberation. Interpretations of these orderings are not provided so that readers do not assume they are related to actual evaluations of mini-publics methods.

Assume that after the investigation and systematic reviews, researchers find two pieces of evidence β and γ similarly trustworthy. Table 1 depicts a case that yields an aggregate evaluation based on the two pieces of similarly trustworthy evidence. Evidence β is entitled to reflect its individual evaluation on function B in which the evidence β owns evidence in the aggregate evaluation. Correspondingly, evidence γ for function Γ. In Table 1, the individual evaluation with an entitlement of reflection is underlined, and individual evaluations without

strong evidence are shown in italics. Table 1 shows a logical impossibility of evidence-based evaluations of the methods of mini-publics that exhibits cycles of aggregate evaluations.

	Function A	Function B	Function Γ
	C > P	D > C	P > D
Evidence β (C>D)	*False*	<u>False</u>	*True*
Evidence γ (D>P)	*False*	*True*	<u>False</u>
	Pareto Principle	Privilege of β	Privilege of γ
	False ⇒ P > C	False ⇒ C > D	False ⇒ D > P
Aggregate evaluation	P > C > D > P		

Table 1

A logical impossiblity of evidence-based evaluations of the methods of mini-publics

To formally analyse the abovementioned impossibility, several conditions of evaluation procedures must be discussed.

First, the separability of functions of deliberation

If there are multiple pieces of evidence of the varieties of functions of deliberation, this implies the functional separability of deliberation. 'Separability' refers to a case in which a function can be distinguished from the rest of the functions and can be analysed separately (Tashiro,

1983, p. 166). When there are n numbers of functions of deliberation, let x_1, x_2, …, x_n are functional achievements of each function, where X is the functional achievement as a whole that a mini-publics method achieved. Then, X is a tuple of x_1, x_2, …, x_n.

The separability of functions of deliberation. $X = (x_1, x_2, …, x_n)$.

Second, the characteristics of individual evaluations

Evaluations must express a level of functional achievement that indicates how well a mini-public satisfies the functions (ideals) of the deliberation. Provided normative standards are incommensurable, suppose that orderings are reflective, complete and quasi-transitive, as discussed in the social choice theory. Quasi-transitivity is a weak form of transitivity, but it is stronger than acyclicity and requires that orderings be transitive, with the exception of indifference relationships. These three conditions of orderings allow for identifying the one of the best alternatives from a given set of alternatives. Let abovementioned orderings of desirable methods for mini-publics call individual evaluations.

The characteristics of individual evaluations. An individual evaluation is an ordering that satisfies reflectivity, completeness and quasi-transitivity.

Third, the characteristics of aggregate evaluation

To evaluate the appropriateness of the methods of deliberation based on the achievement level of expected functions, a system of aggregate evaluations for each individual evaluation is

required. Let us refer to the amalgamation of individual evaluations as aggregate evaluation. An aggregate evaluation expresses the ordering of appropriate methods of deliberation, and its ordering satisfies reflectivity, completeness and quasi-transitivity.

The characteristics of aggregate evaluation. An aggregate evaluation is an ordering that satisfies reflectivity, completeness and quasi-transitivity.

Fourth, the characteristics of aggregation for individual evaluations

An aggregate evaluation is formed by satisfying the following three conditions. Individual evaluations with evidence should be reflected in an aggregate evaluation with priority.

Condition E* (the privilege condition for trustworthy evidence): There are at least two trustworthy evidence-based evaluations such that for each of them there is at least one pair of individual evaluations over which it is decisive. That is, there is a pair of x, y, such that if it judges x (y, respectively) is better than y (x, respectively), then the aggregate evaluation should prefer x (y, respectively) to y (x, respectively) (cf. Sen, 1970, 154)[8].

Note that not all evidence is trustworthy, and thus not all individual evaluations should be reflected in an aggregate evaluation. Evidence-ranking schemes of EBP help researchers reduce the amount of evidence into a small amount of trustworthy evidence. Condition E* is compatible with this concept.

In addition to condition E*, researchers must have two conditions that secure the scientific investigation when forming an aggregate evaluation.

Condition U (unrestricted domain): All logically possible sets of orderings of individual evaluations are included in the domain of the aggregate evaluation.

This condition ensures the nonexistence of taboos in the empirical research on the functions of deliberation.

Condition P (Pareto principle): If all individual evaluations determine that any alternative x is better than another alternative y, then the aggregate evaluation must prefer x to y.

This condition includes two distinct conditions: the unanimity condition (UN), which suggests that a unanimously agreed upon evaluation is reflected in the aggregate evaluation, and the independence condition I in which the aggregate evaluation depends only on the evidence-based individual evaluations (Sen, 1976, p. 220).

If the abovementioned logical conditions are aggregated, it leads to an impossibility, as shown by Sen (1970a). This is because the logical structure of Mutz's (2008) proposal shares the similar structure as a liberal paradox.

Theorem: There is no aggregation system of individual evaluations that can simultaneously satisfy conditions U, P and E*.

The proof is similar to that shown in Sen (1970b, pp. 87–88), while the acyclicity condition is strengthened by quasi-transitivity.

Referring to the example of Table 1, two individual evaluations of function A are not grounded by evidence C > D or D > P, which are owned by evidence β and γ. This implies that the evaluation of function A is based on commonly shared knowledge without strong evidence. If individual functions without strong evidence in Table 1 are excluded, unanimously agreed evaluation P > C is not reflected in the aggregate evaluation, and the aggregate evaluation becomes C > D > P, which avoids cycles.

3.2.　A new impossibility

Unfortunately, Table 2 shows that the exclusion of ungrounded individual evaluations is not a successful resolution. In Table 2, there is no unanimous consensus when the Pareto principle is applied; however, cycles in aggregate evaluation can be observed. This indicates that only privilege by trustworthy evidence can yield cycles. The cycles can be observed when three or more alternatives and three or more pieces of trustworthy evidence each have one privilege that is an entitlement of reflection (Risse, 2001, p. 189)[9]. In Table 2, individual evaluations with an entitlement of reflection are underlined, and individual evaluations without strong evidence are shown in italics.

	Function Δ	Function E	Function Z
	C > D	D > P	P > C
Evidence δ (C>D)	<u>True</u>	*False*	*False*
Evidence ε (D>P)	*False*	<u>True</u>	*False*
Evidence ζ (P>C)	*False*	*False*	<u>True</u>
	Privilege of δ	Privilege of ε	Privilege of ζ
	True ⇒ C > D	Ture ⇒ D > P	True ⇒ P > C
Aggregate evaluation	C > D > P > C		

Table 2

Cycles only with privilege of trustworthy evidence

The abovementioned examples show that Mutz's (2008) proposal and Sen's (1970a; 1970b, 1976) liberal paradox share similar logical structures, which suggests that evidence-based evaluations of the methods of mini-publics are impossible.

4. Proposal: A solution for the structured use of evidence

4.1. A selective review of solutions for a liberal paradox

Literature on the liberal paradox has proposed varieties of solutions for the paradox. Formally, a conflict between condition P and condition E* causes a liberal paradox (Suzumura, 2012, p. 249). For a viable solution, either condition P or E* is relaxed; however, whether these solutions are applicable to a deliberative democracy version of the paradox has not been determined.

First, one type of possible solution asks individuals refrain from reflecting their preferences if necessary. For instance, this solution proposes a different understanding of condition E* (Gibbard, 1974). It also stresses the limited scope of condition P (Sen, 1976; Suzumura, 2012, p.267). However, since evidence does not have an agency to act, it cannot maintain consistency in aggregate evaluations by withdrawing its judgment if necessary[10]. Second, it is unfortunate that the exclusion of meddlesome preferences, such as presenting one's own preferences to the preferences others are entitled to judge, does not apply to three or more pieces of evidence (Blau, 1975, p.398). Third, Nozik's solution suggests eliminating the space where condition P applies by allowing evidence to determine most of the aggregate evaluations (Nozick, 1974); however, the solution may not yield a consistent aggregate evaluation, as shown in section 3.2.

Fourth, interpretations of evidence may vary. An interpretation of evidence can be selected to avoid inconsistency in aggregate evaluations (Farrell, 1976); however, this solution causes aggregate evaluations to become ad-hoc interpretations of evidence[11]. Fifth, Mutz (2008, p. 533) proposed curtailing factors of deliberation; however, this paper reveals a paradox when there are three or more functions of deliberation with two pieces of trustworthy evidence. Thus, literature on the liberal paradox is not applicable to the problem discussed in this paper.

4.2. This paper's proposal

This paper argues that issue-specific normative arrangements and value ordering formation, known as the 'specification' method in applied ethics, would function well as a framework to govern the use of evidence in different settings. In particular, this paper proposes 'issue-specific theories of deliberation'. Issue-specific theories of deliberation refer to a system of functions and causal relationships between the functions that deliberation should achieve, which has a scope that is limited to issues or cases where deliberation takes place[12].

Issue-specific theories of deliberation provide meta-rankings of evidence based on the purposes and local norms that the deliberation of each policy domain should achieve. A meta-ranking is the ranking of rankings (Sen, 2002, p.26, 82–83). Recall that the evidence-ranking schemes of EBP are also meta-ranking based on trustworthiness. Arguments regarding the standards of evidence are prominent characteristics of EBP compared to good policy (Caze and Colyvan, 2017, p. 2). Other standards can serve as the basis for meta-ranking, such as evidence with relevance, cost of effectiveness or moral acceptability (Cartwright and Hardie, 2012, p. 38). If they are simultaneously combined, conflicts between these standards may occur. The prioritisation of the trustworthiness of evidence avoids potential conflicts between these standards. In this case, the evidence-ranking schemes of EBP are effective.

This paper showed that the evidence-rankig schemes or meta-rankings based solely on trustworthiness cannot sufficiently resolve the logical impossibilities of evidence-based functional evaluations of mini-publics methods. Meta-ranking requires other standards to create a new ranking among similarly trustworthy evidence. This solution is logically possible when the independence condition, which is implicitly included in conditions E* and P, is relaxed (Sen, 1976, p. 223). Issue-specific theories of deliberation prioritise evidence based on the local purposes of deliberation in each policy domain. Considerable research supports that each policy domain has local purposes and norms (Ruger, 2007; Mitton et al., 2009). Policy discourse also induces stakeholders' awareness of local purposes and norms (Hajer 2003).

Ethics of care is a good example of how the issue-specific theory of deliberation facilitates the evaluation and selection of the methods of deliberation. Suppose the issue-specific deliberation of nursing among patients, such as family and medical practitioners, is used as an example since the specification of norms for nursing assists in understanding the merits of the proposal of this article (DeMarco and Ford, 2006). Ethics of care are introduced in a situation in which people are dependent. Thus, ethics of care can be referred to as an issue-specific norm. The following chart represents the imaginary flow of specification when setting an issue-specific perspective of analysis as a starting point.

1. Clarify issues: nursing, ethics of care/caring.

2. Specify purpose of deliberation: compassion among patients, their families and
    medical practitioners.

3. Specify standard of evaluation: high level of compassion toward patients and their
    families.

4. Selection of evidence: evidence on moderation (Landwehr, 2014).

5. Selection of the methods of mini-publics: facilitation > moderation.

Table 3

An example of the structured use of evidence by the issue-specific theory of deliberation

A general framework for the evaluation of social states, institutions, policies and so forth is illustrated by the following process of flow: setting the purpose of the evaluation, specifying the informational grounds, specifying the evaluation standard and constructing an evaluation system (Suga, 2014, pp.248–249)[13]. The flow begins with setting the purpose. A variety of

purposes should not be used because 'informational grounds and evaluation standards cannot be specified' if the purposes are widely defined (Suga, 2014, p. 249). The purpose of deliberation should be clearly and narrowly defined to specify the functions and the orderings that can be expected for the specific case of deliberation. This specification may be possible for some deliberation and mini-publics where ex ante purposes or expectations of public policy and implementation research of deliberation exist. The proposal of this article is restricted within this limitation.

4.3. EBP begins with deliberation

This paper suggests that the normative theoretic arrangements that facilitate issue-specific deliberation based on local norms and open discussions are an effective starting point for the framework of governing the use of evidence in different settings. This is more appropriate for the deliberation-based evidence-ranking schemes than the conventional rule-based evidence-ranking schemes (Cartwright and Hardie, 2012, p. 157). Deliberation processes in EBP are widely supported and a combination of systematic reviews and deliberation processes are recommended (Lavis, 2006). Some researchers have argued that deliberative processes provide practitioners with the relevance between causal roles and supporting factors (Cartwright and Hardie, 2012, p. 158). This paper shows that deliberation plays another role, which is to resolve the issues related to the logical impossibilities of evidence-based evaluations of mini-publics. This recommendation assists in choosing high-functioning methods of deliberation based on the accumulation of empirically tested evidence to ensure the effectiveness of deliberation in mini-publics. To summarise, the 'constructivist' approach to evidence supports the 'modernist' approach to evidence (cf. Sanderson, 2002).

5. Discussion

5.1. The normative characteristics of the issue-specific theory of deliberation

The issue-specific theories of deliberation are based on applied ethics known as specification (Richardson, 1990). Specification yields applicable norms for cases using a filter 'by adding clauses indicating what, where, when, why, how, by what means, by whom, or to whom' (Richardson, 1990, p. 295). When using filters, the issue-specific point of view is effective for specifying situations where norms are used.

An advantage of the specification method is that it avoids the norms of deliberation affected by empirical and implementation necessities because conflicts between norms and evidence are resolved within each case. Consequently, conflicts do not directly require a change in the ideals of democratic deliberation (Richardson, 1990, p. 284).

This argument may lead to intuitionism, which EBP avoids. This concern is alleviated by the concept of mutual testimony in deliberation. The purpose of deliberation should be established through the mutual testimonies among the participants and practitioners of public policy in each policy domain. After the purpose of deliberation has been established, the choice of the methods of deliberation follows evidence-based schemes.

5.2. Can normative principles be a viable solution to implementation research?

In an ideal setting, the grand theory and normative principles would be able to define the purposes of deliberation and recommend which functions should be prioritised (Thompson, 2008, p. 513); however, commonly shared normative principles may cause disagreements when

they are applied to specific cases (Sunstein, 1995, p. 1739). Including several conditions for a theory to resolve the liberal paradox makes a theory lengthy and complex (Richardson, 1990, p. 287).

Implementation research on deliberation benefits from the affordable size of norms and standards provided by the issue-specific theories of deliberation. Deliberation implemented into public policy aims to achieve not only the proxy to the ideal form of deliberation but also a modification of the evaluation standards of deliberation depending on the purpose of the deliberation in public policy. Planners of mini-publics in collaboration with theorists can implement the modifications. The proposal of this article provides an evaluation standard for practitioners of deliberation while facilitating a structured use of evidence.

5.3.   The effectiveness of issue-specific theories of deliberation for empirical research

The proposal of this paper allows for examining the success and failure of deliberations by providing an evaluation standard that can be applied to specific cases of deliberation. The proposal enables distinguishing between the theoretically important results and the insignificant results by specifying the normative values to be achieved in each case of deliberation. One of the major contributions of normative research to empirical research is an approach to determining which topics are worth investigating and which criteria should be applied to the investigations (Setälä and Herne, 2014, p. 59; Teorell, 2006, p. 788). This paper's proposal is one of the most significant contributions of normative research to empirical research regarding deliberation.

6. Conclusion

This paper began with the question: Is an evidence-based evaluation of the methods of mini-publics for the implementation of deliberation in public policy possible? The logical consistency of evaluations over the methods of mini-publics based on the evidence of the expected functions of deliberation was investigated. Mutz's (2008) proposal is a typical example of such an evaluation scheme. The results revealed that the evaluation systems share a similar logical structure with the liberal paradox and thus yield logical inconsistencies. As a solution for the paradox, issue-specific theories of deliberation that enable the structured use of evidence in mini-publics where the purposes of deliberation can be specified are proposed. Furthermore, the use of the specification method in applied ethics as a normative buttress of the proposal is recommended. The implications for implementation research and empirical research have also been discussed.

 The major limitations of this paper are as follows. First, the scope of the solution is limited to mini-publics or deliberation with specific plans. The type of normative priority that should be established for each case remains unclear and requires further research in collaboration with theoretical and implementation research on deliberation. Second, readers' disagreements regarding the analogical similarities between Mutz's (2008) proposal and Sen's (1970a; 1970b, 1976) liberal paradox may render the investigation less valid. Third, the feedback mechanisms involved in the evidence of deliberation for the grand theory should be discussed in detail in other papers. Nevertheless, this paper's proposal recommends that issue-specific theories of deliberation be included in the research scope of deliberative democracy. The proposal is useful for the collaboration between the theoretical, empirical and implementation research of deliberation.

Acknowledgement

Notes

[1] Evidence-based policy and deliberative democracy are both rooted to skepticisms against professionals in public service and their capacities of steering systems of society (Habermas, 1976; Davies et al., 2000, p.1). Public policy and its legitimacy must be supplemented with authority of scientific evidence and democratically-constructed social consensus.

[2] For crucial enabling factors for EBP, see (Head, 2009, p. 14).

[3] Normative theories are expected to provide 'what questions are important to ask' with 'the standards needed to evaluate the empirical findings' and 'causal statements that are empirically testable' for empirical research (Setälä and Herne, 2014, p. 59).

[4] Some researchers deny the general criteria for valid analogical reasoning (Norton, 2010). Others take elements from both sides (Bartha, 2013).

[5] Details can be found in (Smith, 2009).

[6] These functions are typical examples of what deliberation is expected to fulfill.

[7] Consensus formation may entail logical impossibilities (McGann, 2006, chap. 7). Therefore, agreement on issues is discussed (Dryzek and List, 2003; Dryzek and Niemeyer, 2010; Miller,

1992). Based on this argument, deliberation may be able to form single-peaked preferences (Farrar et al., 2010; List et al., 2013). The requirement of consensus depends on the task of the problem (Landemore and Page, 2015). The judgement aggregation scheme, in the case of the nonexistence of a consensus in decision strategies due to cognitive diversity, is discussed in (Sakai, 2015).

[8] This interpretation is possible because the contents of privilege are specified by the interpretation of social preferences (Sen, 2002, p. 7).

[9] See also (Farrell, 1976, pp. 6–7; Gibbard, 1974).

[10] The game theoretical framework, which requires agency, is not appropriate for this case, either (Gaertner, Pattanaik, and Suzumura, 1992; Sugden, 1985).

[11] Taboos on individual evaluation imply taboos in empirical research, thus becoming unattractive. See also (Suzumura, 2012, p.255).

[12] They can also be called middle-range theories of deliberation; however, to avoid confusion with Mutz's terminology, this paper uses issue-specific theories of deliberation.

[13] Suga (2014) explained this argument to induce the principles of justice.

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