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Evidence-based Policy and Classifying Public Policy

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Abstract

Evidence-based policy is an important principle in many developed countries. However, when the term "policy" is used, its meaning can vary substantially from one instance to the next. In truth, there are many different types of policies and it is difficult to argue that all methods are fit for every type of policies. Hence, it is necessary to refer to public policy studies and policy sciences. Furthermore, some researchers have suggested evidence typologies which show what types of evidence can reveal what types of problems. Through application of these typologies, I suggest what types of evidence are fit for what types of public policies.

Key words: *evidence-based policy, policy typology, evidence typology, context, policy areas*

Preface

Evidence-based policy is an important principle in many developed countries. Several books on the subject have been published. In addition, many related articles have also been published. Randomized Controlled Trials (RCTs) and systematic reviews have been highlighted as especially important in public policy-making.

However, when the term "policy" is used, its meaning can vary substantially from one instance to the next. In truth, there are many different types of policies and it is difficult to argue that RCTs and systematic reviews are suitable for all types.

Many prior studies have focused on specific types of policies. For example, policies on health care, education, and medical services, amongst others, have been addressed in previous research dealing with evidence-based policy. These policy types appear suitable for evidence-based policy-making supported by RCTs and systematic reviews. However, it is important to understand the types of policies that are not suitable for RCTs in order to better understand the type of evidence required for each of the various policy fields. In this pursuit, it is necessary to consider evidence-based policy more specifically.

Public policy studies and policy sciences provide some tools for classifying the various types of policies. For example, one method is to classify policies based on "policy areas." Public policy includes several areas of policy such as social security, culture, environment, and the economy. Each area requires different evidence from the others. In my presentation, I will attempt to identify the relationship between policy areas and evidence.

Another method of classification is "Policy Typologies." Policy typologies are complex concepts but can be used to classify public policies. Using policy typologies enables us to understand the use of power in policy-making and implementation. It can be applied in different policy studies. For example, in Japan, one researcher has suggested that policy evaluation should reflect policy typologies. I believe that this is applicable for evidence-based policy as well.

In the theory of evidence-based policy, the term "evidence" has diverse meanings, and its definition is often vague. Hence, the meaning of evidence

should be made clearer and more specific. Using “policy areas” and “policy typology,” I will attempt to identify the type of evidence needed based on the type of policy involved.

Additionally, I will also refer to “evidence typology”. The concept of evidence typology does not suggest a hierarchy, but rather, suggests that evidence has specialty fields. Hence, we need to consider of what types of evidence are fit to what types of public policies.

The aim is to make evidence-based policy clearer and to provide guidelines for its use in devising specific plans. Consequently, in this presentation, I will suggest a policy classification that is appropriate for evidence-based policy. I will reconsider the two major policy classification schemes and examine whether they can be used in a discussion of evidence-based policy.

1. Two Ways of Classifying Public Policy

Recently, a book about evidence-based education policy was published in Japan, and it sold well (Nakamuro, 2015). This book argued that evidence-based policy should follow the “Gold Standard,” which is the same as evidence-based medicine. The Gold Standard is a famous concept that finds its place in evidence-based policy. It suggests that RCTs, systematic review and meta-analysis are important, and there is hierarchy about evidence. The Gold Standard assumes that RCTs, systematic review and meta-analysis are the most important evidence, while opinions of experts or case studies are not so important. Such assumptions have met widespread acceptance.

But whether evidence-based policy should be based on the Gold Standard is debatable. For example, according to Justin Parkhurst, the evidence-based policy does not necessarily reflect the Gold Standard (Parkhurst, 2017). Of course, the Gold Standard is an important concept because it can reveal the effectiveness of an intervention. However, as public policy has diverse meanings, I suggest that advocators of evidence-based policy should consider classifying public policy as there are different types of policies and it is difficult to prove that RCTs and systematic reviews are suitable for all types.

There are two methods by which public policy can be classified: policy areas and policy typologies. Classifying public policy on the basis of policy areas is the simplest method. For example, policies on healthcare, education, and medical services have been addressed in previous research dealing with evidence-based policy. But with regard to other policy areas, is it possible to promote evidence-based policy?

The other method of classifying public policy is policy typologies. Policy typology is a well-known concept in public policy studies. Policy typology was originally proposed by Theodore Lowi (Lowi, 1964). He revealed that "policies determined politics" in many cases and not the other way around. But today, studies about policy typology are not so commonplace. As such, I'll use policy typologies limited way. I won't argue "politics determine evidence". I'll argue using policy typologies, we can clarify which types of evidence fits which types of policies.

Below, we explore the two ways of classifying public policy and how to use them in evidence-based policy.

2. Policy Areas

As explained above, policy area is the simplest method of classifying public policies. Today, we have many policy areas because social problems have become complex and diverse. Evidence-based policies are affected by these policy areas. *"What Works"*, a pioneer book of evidence-based policy, has discussed the policy areas (Davies and Nutley and Smith edit, 2000). In the book, Huw Davies, Sandra Nutley and Nick Tilley argue that some policy areas fit RCTs, for example, health policy. According to them, "the health sector has in general adopted a research culture in which it is accepted that the services provided should in principle be exposed to rigorous scientific evaluation" (Davies and Nutley and Tilley, 2000, p.251).

As they argued, some policy areas are fit to RCTs because of policy specialists' culture. As in healthcare policy, specialists are familiar with scientific methods such as RCTs, systematic review or meta-analysis. Some people argue that such methods should diffuse into many policy areas (John, 2016; 2017).

Such phenomena have both positive and negative aspects. First, scientific methods can help with policy innovation. For example, policy in the areas of education or criminal justice can be made a more effective through RCT as these areas are not intimate with scientific methods. With the introduction of scientific methods, we can take these policy discussions a step further.

With respect to inadequate aspects, such situations tend to place too much emphasis on scientific rigor. According to Carol Bacchi and Susan Goodwin, "the continuing emphasis on 'what works' assumes the independent

existence of a problem that needs fixing" or "the clear presumption is that problems exist as independent entities that need only to be identified or recognized" (Bacchi and Goodwin, 2016, p.59).

According to them, the problem is "what's the problem represented to be?" (Bacchi and Goodwin, 2016, p.107). They argue that some policy areas, problems and solutions are not so clear. Gender equality, for example, is amorphous, and as such evidence cannot necessarily decide a situation's merit. In such policy areas, RCTs can reveal nothing and scientific methods are not appropriate.

Hence, a warning is necessary with regard to the use of evidence. Evidence-based policy may switch the focus of policy argument or discourse. Nevertheless, it is difficult to judge which policy areas are a good fit to evidence-based policy. It is important to note that policy analysts are influenced by policy areas' cultures. As Paul Cairney argued,

> Different policy areas often have different characteristics, present different problems to solve, have different participants, and are associated with different styles of policymaking (…) While the nature of the policy environment does not determine how policymakers behave, they will take these things into account (Cairney, 2012, p.27).

It would have that not only policymakers but also policy analysts and experts or researchers are influenced by policy characteristics. We can recognize the analysts or experts of which policy types are familiar with

scientific methods and rigorous. Many articles and books about evidence-based policy include case studies. We should pay attention to them as these cases help to see that the context of policy and experts' culture influence evidence-based policy movements.

However, classifying policy areas is not a constructive practice. Many researchers and experts have excelled in their special areas and can reveal which area is the most progressive as far as evidence-based policy is concerned. But such occupations may not contribute to the development of theories of evidence-based policy because they would be mere verifications. Of course, verifications are not unimportant, but we should see what types of policy fit the evidence-based policy. Then, in the next chapter, I will suggest the types of policy suitable for evidence-based policy using policy typologies.

3. Policy Typologies

As mentioned above, policy typologies are complex conceptions. After Theodore Lowi, some other researchers have also suggested their typologies (Spitzer, 1987). Daniel McCool argued, "if it ends we stop building, we stop improving our understanding of public policy" (McCool, 1995, p.176). But presently, the policy typologies have not been sufficiently studied.

There are several reasons for this current situation. First, as Akiyoshi Takao argued, "why do we make policy typologies?" Such questions led policy studies to seek policy instruments or policy design (Akiyoshi, et al 2015, p.44).

Second, some people pursued "perfect typologies." Since public policy is

very complex and diverse, it is difficult to grasp it perfectly. Therefore, we cannot make perfect policy typologies that grasp public policy comprehensively. There are numerous policy typologies, and most of them stem from researchers' concerns and goals.

Hence, I will use the policy typology that fits my concern related to evidence-based policy. I browsed a typology suggested by Yamaguchi Jiro, who is a political scientist in Japan (Yamaguchi, 1994).

Table 1 Typology Based on Targets (adapted from Yamaguchi,1994)

Targets	Society(Mass)	Individual
	(Foreign Policy)	
	National Pensions	Medicine
	Public Health	Education
	Regualtion of Environment	Criminal Justice

Yamaguchi suggested a typology that can be divided into the targets of public policy and public service. Table 1 shows that the typology is divided into the receivers. If the policy target is Society (Mass), the public policy provides numerous people and influences an unspecific number of people. In short, it cannot set limited targets. For example, the national pension is a universal service. Foreign policy, on the other hand, might not be appropriate for application to the table as it influences all people.

However, in case of the policy target being individuals, it is easy to set limited targets. For example, criminal justice and education provided to

individuals directly. Such policies aim to change the behavior of individuals or developing the ability of individuals.

As Davies and Nutley and Tilley argued,

> 'What works?' evidence is concerned with evaluating the impact of interventions. Sometimes such interventions are aimed at individuals: the archetype here being the care of the sick using diagnostic and therapeutic interventions aimed at improving health outcomes (Davies and Nutley and Tilley, 2000, p.254).

Like RCTs, social trials are a good fit to public policies that set targets as individuals. In contrast, for public policies that set targets as broader society, RCTs are not fit because trials cannot be carried out under such a scenario. Even Peter John, who believes that RCTs are a good tool for public policy, recognizes that some policies are not fit for RCTs. According to John, "it is not possible to use a trial to solve some fundamental problems in public policy and politics, such as whether to have an independent central bank or to withdraw from the European Union" (John, 2016, p.80).

In situations such as the "Brexit" problem, we cannot carry out trials. RCTs and systematic review or meta-analysis cannot provide good evidence about such policy. Then, such a problem cannot be based on evidence? This will be discussed in details later.

Incidentally, Yamaguchi's typology is more complex than that shown in

Table 1. He prepared more of an axis of divided typology[1].

Table 2 Typlogy Based on Targets and Standardization (adapted from Yamaguchi, 1994)

Standardization \ Targets	Society(Mass)	Individual
The standard is fixed	Regualtion of Environment Public Health National Pensions	Electlicity Charge Voting
	Subsidy	Education Criminal Justice
Personalized needs		Livelihood Protection Medicine Counselling

Table 2 is an improvised version of the original Table 1. Yamaguchi suggested “standardization” as one more classification. Like regulation of environment or public health, the standard is fixed. Of course, there may be a lack of consensus on the standard. But once the standard is fixed, there remains only a small discretionary zone.

In contrast, the policies positioned as “personalized needs” have a wide discretionary zone. For example, Japan’s public policy of “Livelihood Protection.” This policy provides money to individuals who cannot work. It clearly has standards, but some local governments do not appropriately implement this policy as it is dependent on “street-level bureaucrats.” Since these bureaucrats want to reduce the cost of welfare policy, they refuse to

[1] I made some changes to this table. In the original version, education was positioned between “society” and “individual.” In my opinion, education should be provided to individuals, so I changed it accordingly in this paper.

provide money to the needy people even though the latter have the right to receive it.

This situation is, however, currently improving. The personalized needs are fuzzy and depend on the process of policy implementation. As Imai Yasuo argued, RCTs cannot reveal why and how this policy worked well (Imai, 2015). It can reveal only an input and an output (see, Figure 1).

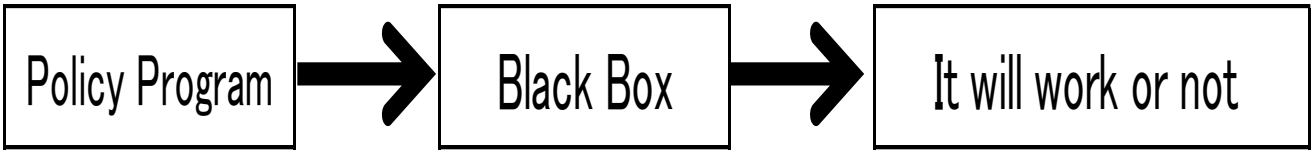

Figure 1 The Process of RCT

According to Imai, RCTs put the policy implementation process into a "black box." It is an important factor of evidence-based policy.

For example, Nancy Cartwright and Jeremy Hardie said that RCTs can reveal only that "it will work somewhere" (Cartwright and Hardie, p.56; Gutting, 2015, pp.42-48). Furthermore, they suggest that,

> (…) in social policy the assumption is heroic, and you had better be careful in making it, because typically neither you nor the engineers have much understanding of how it may work (Cartwright and Hardie, 2012, p.126).

They further argued that we should seek a "causal role" that supports "it will work here." Additionally, Sandra Nutley, Isabel Walter and Huw Davies

argued that “the problems of addressing complex, multidimensional problems by simply scaling up intervention (…) have been shown to be effective in just one or two specific contexts” (Nutley and Walter and Davies, 2007, p.223).

All these point out that policy implementations are very complex and cannot be controlled perfectly.

As I suggested in Table 2, education and criminal justice should be positioned between “the standard fixed” and “personalized needs.” Of course, education policy is often based on law. The standard is fixed, but the processes of implementation have discretionary zones. For example, education programs are provided by teachers. Martyn Hammersley, who is a strong critic of evidence-based policy, argued that “the behavior of schoolteachers cannot easily be standardized because a requirement for effectiveness in the job is adaptation to circumstances, notably to the distinctive and changing characteristics of particular cohorts of children” (Hammersley, 2005, p.90).

In such situation, we need to know the insides of the “black box.” This is easier said than done, however, as we need to employ different methodologies.

Can we then move such policies from “personalized needs” to “fixed standards”? This is difficult because some policies naturally depend on discretions. We cannot change the characteristics of the education policy that depend on the school teachers. As Yamaguchi said, some policies must fit personalized needs because they are very diverse, and we should not set

hard-and-fast rules (Yamaguchi, 1994). Such challenges can have harmful effects on people, and evidence cannot change standards of policy.

However, if looked from another perspective, such "personalized needs" are not so bad. As Hammersley stated,

> (…)the role of prhonesis—of experience, expertise and judgement—is as important in policymaking as it is in other forms of practice, and the move to insist that all policy decisions should be validated in research terms can have undesirable consequences in this context just as much as elsewhere (Hammersley, 2013, p.54).

He argued that practices are very important for some policies, especially, those positioned in "personalized needs." His argument may seem too pessimistic. But advocators should consider his arguments when formulating policies.

However, policies positioned as "individual (targets)" and "standard is fixed (standardization)" are fit for RCTs. For example, in Japan, a major RCT was carried out for "reform of electricity charge". This policy aimed to reduce the amount of power consumed in "peak time." Comparing these two policies, one is a compellation to reduce power, while the other is a changing electricity charge; in peak time, electricity rate becomes higher than in other times. The result showed that changing rates have more durability than compellations (Ito, Ida and Tanaka, 2017).

In such case, there are no discretionary zones. Street-level bureaucrats

have nothing to do with policy implementation as they only change the electricity charge. Thus, a policy positioned as “individual” and “fixed standard” can carry out an RCT easily.

In the next chapter, I will argue that policies that do not fit RCTs systematic review or meta-analysis, can use evidence. First, I will focus on “personalized needs” policy.

4. Why “it worked there, does not imply that it will work here” ?

According to the Gold Standard, a case study cannot provide important evidence. However, RCTs, meta-analysis or systematic review have limitations. As shown in figure.1, they cannot reveal the working of certain types of policy.

Hanne Foss Hansen suggested that evidence typology is not and evidence hierarchy. In his typology, evidence have specialty fields (see, table 3) [2].

RCTs can reveal effectiveness and cost effectiveness, which qualitative research cannot. What qualitative research can reveal, however, is the “process of service delivery.”

[2] Table 3 was originally suggested by Hansen, but I have revised a part of it. And I have omitted some research questions because they are not necessary in my paper.

Table 3 Typology of evidence(adapted from Hansen, 2014)

Design / Research question	Qualitative research	Survey	RCTs
Effectiveness Does this work?			++
Process of service delivery How does it work ?	++	+	
Salience Does it matter?	++	++	
Acceptability Will people want to take up the service offered?	++	+	
Cost effectiveness Is it worth buying this service?			++

For evidence-based policy, the process of service delivery is very important and a difficult problem. Paola Coletti is a researcher who recognized it. According to Coletti,

> The assumption of the Evidence Based Policy stands on what kind of strategy should be adopted by policy makers, using evidence gathered from other contexts. This approach, however, seems to lose its connection with the policy process itself as well as with the actors playing in it (…) it may bring to miss some of the reasons of the policy success or failure; on the other side, transferring to a different context or evaluating the outcomes produced in a different context may not be something easy to figure out (Coletti, 2013, p.12).

Such a perspective has two backgrounds. First, it is related to Ray Pawson's "realist perspective." According to Pawson, "the success of social programmes is(…) limited by contextual constraints. Interventions, by definition, are always inserted into pre-existing conditions" (Pawson, 2006, p.24). Pawson argued that in order to make a policy successful, we need to synthesize diverse evidence (Pawson, 2006; Pope and Mays and Popay, 2007). Other researchers who have focused on "context" are Mark Dobrow, Vivek Goel, and R.E.G Upshur. They argued that "both internal and external contextual factors fundamentally influence and affect what constitutes evidence and how we utilize that evidence to justify decisions" (Dobrow and Goel and Upshr, 2004, p.215).

These arguments focus on "context" because public policy is not implemented in a laboratory but in our society, which is complex. Such a tendency is especially strong in policies' standards such as "personalized needs." Hence, as Pawson argued, "the goal is to facilitate the transfer of the 'sticky knowledge' that makes for success in complex organizational innovations by bringing policy-makers and practitioners together in informal space" (Pawson, 2006, p.181). Additionally, such arguments that focus on contexts have a dimension of policy implementation and discretion, and evidence like RCTs cannot explain them. To understand them, we need to use qualitative research or synthesized evidence[3].

[3] As Poppe et al argued, Pawson's "realist synthesis" have almost no specific examples (Poppe and Mays and Popay, 2007). His thinking is very important, but to carry out realist synthesis, we must seek an enormous amount of information and evidence.

Second, this perspective is related to "policy design." Policy design has diverse meanings, but some of its theories focus on context. For example, Peter deLeon said that "policy design proponents are not beginning from a tabular rosa" (deLeon, 1988, p.304). Policy design attempts to deal with the uncertainness of public policy. Theories of policy design state the use of knowledge and tools in creative ways. It also focuses not only on policymaking but also on policy implementation and policy process (Howlett and Lejano, 2012). Coletti argued the importance of context and policy implementations. She further argued that we need to focus on case studies and learn from the "best practice".

Such a perspective is related to Hammersley's critique on evidence-based policy. As mentioned above, he emphasized the necessity of local knowledge and value judgments, and professional performances, as also argued by Coletti (Hammersley, 2013, pp.27-28).

Therefore, the problem of "it worked here, does not imply that it will work there" is caused by context and is intimately related to policy implementation.

As shown in table 3, qualitative researches can reveal "salience" and "acceptability." Salience is a difficult problem and cannot be revealed simply through dependence on scientific evidence. For example, Frank Fischer's case studies of Kerala can reveal local knowledge and it is important to make good public policy (Fischer, 2000). Hammersley and Fischer focused on the importance of case study or qualitative research because they think that by using only "scientific" evidence, we cannot improve the process of public

policy (Hammersley, 2013, p.107). The process includes agenda setting. And agenda setting has related to “problem identification” or “problem recognition”. (Bacchi and Goodwin, 2016, p.59).

Acceptability is a difficult problem because by focusing only on acceptability, public policy cannot solve serious problems. According to Adachi Yukio, it is the problem of “democratic myopia” (Adachi, 2010). Generally, people do not want to support politicians who make “painful policy.” To achieve sustainable development, people have to accept many regulations that may also be disadvantageous for them (Hendriks, 2009).

In short, to pursue acceptability, we need to emphasize myopia. By focusing only on acceptability, we cannot judge a policy to be good or bad. But to implement a policy, it is necessary to grasp its acceptability. Researchers or experts should know it through a qualitative research. As Coletti stated, “policy has to be adapted to another context in a creative way, pinching ideas from vicarious experience since a mindless implementation might be fatal for the success of the policy” (Coletti, 2013, p.89). It is a crucial statement for evidence-based policy.

5. On “Survey” or Big Data

Although Hansen did not define what a survey is (Hansen, 2014), in evidence-based policy, a survey typically refers to big data analysis or statistical analysis. As suggested in Table 3, surveys are not necessarily superior to other analytical methods. Indeed, big data surveys or big data analyses have weak points. They cannot reveal causality, for example.

Through analyzing data, we can only guide reasoning. However, big data has big potential to provide policymakers with important information.

As suggested in Table 2, if the target of the policy is (mass) society, Randomized Control Trials (RCTs) are likely to be insufficient. In cases involving policy whose target is (mass) society, using big data enables us to acquire useful evidence. However, we need to be careful in our use of big data. As H. Kumar Jayasuriya notes, "big data does not mean a single large collection of data. The size of the data collection is irrelevant" (Juriyasuriya, 2015, p.iii).

To use big data, we have to aggregate numerous databases and draw implications from this aggregation. Today, there are numerous data sources and massive amounts of data, and big data is already saving lives. It is said that big data makes our lives and our lives make big data (Interim Progress Report, 2015).

In the digital age, huge numbers of people use SNS such as Facebook or Twitter. Such tools can provide crucial information to policymakers and researchers (Johnston, 2015). Importantly, the digital age is changing "government tools." As Christopher Hood and Helen Margetts suggest, technological innovation has changed the forms of governance (Hood and Margetts, 2007). Enormous amounts of administrative data are routinely accumulated and made available to both policymakers and researchers.

Perhaps most notably, big data can be used to develop health care policy (Salas-Vega and Haimann and Mossialos, 2015). Government administrators as well as hospitals have large amounts of data regarding medicine. Such

data have the potential to contribute to reforming institutions and making more effective policy (Gresenz, 2015). While the target of public health policy is (mass) society, RCTs focus on individuals. Health care policymakers need to take a "big picture" view of public health and its tendencies. Although health care has a strong relationship to medicine, it differs from medical policy. Health care policy has diverse dimensions, including governance, financing, and politics (Kuhlmann, Blank and Bourgeault and Wendt, 2015). In such an area, large numbers of unspecified people are influenced by the policies that are developed. Here, RCTs alone cannot guide policymakers in how to make good policy or how to interpret the current situation.

While big data cannot itself establish a specific, efficient policy program, it can help us predict the future and encourage efficient policymaking that targets society as a whole. This is not to say that using big data is without problems. The first of these problems concerns staff limitations. As Patrick Dunleavy notes,

> (…) many Whitehall departments running substantial policy fields (…) have neither ready access to 'big data' resources of their own (…) nor the highly numerate and analytically oriented departments operating in environments with plentiful 'big data' (…) They remain very dependent upon the national statistics system for the coverage and timing of their policy information (Dunleavy, 2016, p.164).

Such an observation is not rare. Michal Howlett argued that the level of

policy-related analytical capacity is not particularly high in many developed countries (Howlett, 2009). According to Howlett, government and non-governmental actors cannot deal with many of the complex contemporary challenges of policy because they lack the capacity to design public policy appropriately (Howlett, 2009, pp.161-163). This tendency is especially pronounced in the area of long-term policy.

To deal with such a situation (in which the experts' policy analytical capacities are limited), what should be done? Should we wait for great policymakers or leaders like Yehezkel Dror's "Avant-Garde Politician" (a great leader with a special ability to lead his nation and the world) (Dror, 2012)? Dror's suggestion is important and deserves consideration. However, evidence-based policy cannot answer such problems. Evidence-based policy cannot tell us the capacity of policymakers or leaders and the vision of desirable politicians. Hence, while the problem of limited analytical capacity is notable in big data, it is a serious problem for the whole of evidence-based policy.

Second, big data cannot identify specific efficiency problems. It creates a gap between researchers (experts) and policymakers. Generally speaking, policymakers want to acquire information that will lead to a successful short-term policy, as they are driven by politics or the inherent nature of a democracy. In such a situation, there is a large gap between researchers and policymakers (Caireny, 2016, pp.109-110). RCTs can tell policymakers what a specific efficient program is. But big data analyses cannot suggest what an efficient program is because it can only study current conditions. Although

objective evidence can lead to long-term efficient policymaking and policymakers should take it seriously, the "speaking truth to power" model does not necessarily work well in today's short-term oriented world. For their part, researchers, whose focus tends to be on longer-term issues and solutions, need to recognize that policymakers, far from being foolish and willfully short-sighted, must operate in a complex and pressurized political environment in which consensus-building and the need to rally the support of constituents and colleagues is a crucial element of success. Thus, while researchers have the latitude to contemplate long-term problems and policies, they need to understand what is needed by policymakers.

In short, researchers and experts need to understand what is needed by policymakers. There is a gap between policymakers and researchers (experts). Researchers are interested in thinking about long-term problem but policymakers have little interest in that.

The conflict is essentially this: Big data tends not to be able to provide policymakers with a specific policy plan, but policymakers seek to produce an effective (short-term) program that will enhance their reputation. Hence, big data cannot give policymakers what they want—short-term accomplishment. Thus, for many policymakers, the analysis of big data is not particularly attractive. For long-term policy and noble aims (like sustainable development), however, big data analysis is a necessary endeavor worthy of pursuit.

6. The Problems of Politics

Some problems remain. One of them is the matter of politics. While a comprehensive discussion of this topic is not possible here, presenting a general view of evidence-based policy and politics seems appropriate. In this chapter, the emphasis is on the dark side of politics and how to deal with it. A discussion of the importance of policy advising is also included.

Eileen Munro has said that evidence-based policy aims at rationalizing policymaking and de-politicizing the policymaking process (Munro, 2014). However, as indicated in Table 2, setting standards is a problem of politics. What standards are appropriate to our society? To answer this question, we need to discuss standards using evidence, while also understanding that evidence alone cannot decide what standards are appropriate.

Such a consideration is suggested by Brian W. Head's "three lenses" (Head, 2008). These lenses include "political judgement," "professional practice," and "scientific evidence." As Head indicates, professional practice is important for good performance. To reveal what good performance is, we need to examine case-studies.

Needless to say, scientific evidence based on rigorous research is required. However, Head argues that professional practices and scientific evidence are not enough to achieve evidence-based policy. According to Head, the judgement of political actors is critical:

> These analysing and judging activities include several vital elements relevant to evidence-based policy—such as considering and adjusting strategies or tactics; undertaking agenda-setting; determining priorities;

> undertaking persuasion and advocacy; communicating key messages and ideological spin; shaping and responding to issues of accountability; building coalitions of support; and of course negotiating trade-offs and compromises. Making contextual judgements about the possible and the desirable are inherent in this form of knowledge (Head, 2008, p. 5).

Head asserts that political judgements include important elements which are necessary to evidence-based policy. According to Head, political judgement and professional knowledge provide practical knowledge. He also notes that "sometimes it (partisan use of evidence) is more systematically linked to a cohesive ideological outlook, characterized by some commentators as faith-based politics" (Head, 2009, p.5). As to the problem of what an appropriate standard is, the capacity of politics to deal with the problem depends on values, policy debate, and so on (Head, 2009, p.9).

Doubtless, politics presents problems for evidence-based policy. According to Sandra Nutley, Isabel Walter and Huw Davies, postmodern readings can "draw our attention to the play of power within the process of research use" (Nutley, Davies and Huw, 2007, p. 120). They argue that producing knowledge has suppressive dimensions. The power of politics especially can be readily linked to a dominance of knowledge. As postpositivist studies have revealed, linking expertise with political power conflicts with democracy (Deleon, 1997; Fischer, 2003).

Hence, it is not enough to consider only the positive dimensions of politics; there is a need to focus on the dark side as well. By using postmodern

approaches and referring to postpositivist approaches, we can more fully understand how power relates to knowledge, science and evidence.

Another problem in need of attention is the problem of "cherry-picking." Cherry-picking here implies that policymakers or politicians (even some researchers) select only specific evidence that supports their opinions or advances their cause. According to Justin Parkhurst, "there is a problem with the politicization of science—and the ways that political interests appear to drive the misuse, manipulation, or cherry picking of evidence to promote political interests" (Parkhurst, 2017, p.7). Along this line, Reiner Grundmann and Nico Stehr state that

> An appeal to self-interest will not do, unless one can point to legitimate principles, such as the principle of fairness or justice. If a scientific finding supports one's interests, this would legitimately be an argument to be used in support, too. For this reason knowledge claims, especially scientific claims, are important resources indeed (Grundmann and Stehr, 2012, p.16).

For politicians and policymakers, scientific evidence is an important resource. However, the relationship between politics and evidence is complex. While evidence has no partisanship, the users of evidence (researchers, politicians and policymakers) are commonly partisans or individuals with special interests. Clearly, if certain evidence can be used to support one's opinion, the opposite negates that opinion. Of course, the opposite should

suggest a reforming of those opinions, but, in reality, the conflict of evidence and opinion is difficult to solve. Can we judge which evidence is “true”? Such conflict can conciliated by politics or discussion in democratic society. In any event, we have to focus on politics because some evidence use is distinctly arbitrary.

To consider the problem of politics, we need to take policy advising into account. David Bromell describes “ethical policy advising” in his recent book, a concept that includes “civility”, “fidelity to the long-term public interest”, “respect for citizens as responsible agents”, and “prudence” (Bromell, 2017, p.14). According to Bromell, policy advisers (researchers and experts) should possess such virtues. Additionally, Bromell outlines the capacity needed for policy advisers, describing it as the “capacity to develop political ‘nous’: the skills to suss out the lie of the land, navigate through swamps and dark forests, avoid wolves and bears, and find ways through seemingly impassable mountains” (Bromell, 2017, p.15).

The virtues and capacities suggested by Bromell can prevent individuals from using evidence arbitrarily (cherry-picking). These arguments suggest that scientific evidence and rigorous methods alone cannot deal with the problems inherent in politics.

7. Conclusion—Beyond Evidentialism

Table.4 Methodology and Policy Targets

Targets / Standardization	Society(Mass)	Individual
Fixed Standards	Big Data Analysis Survey	RCTs Quasi-Experiments
Personalized needs		Case Study

Summarizing the major points made in this paper, Table 4 suggests what types of policies fit what types of methodologies. As already mentioned, some policy types are not suitable for RCTs. Additionally, big data analysis and surveys are not capable of identifying a specific policy program that will work well. However, these approaches have relevance to other policy types.

As Hammersley asserts, those seeking to formulate evidence-based policy should reconsider the value of case studies and quantitative research (Hammersley, 2013). This is not to argue that RCTs, systematic review, or meta-analysis are all powerless, but that they should be used appropriately.

For example, personalized needs are not always clear, and there are discretionary zones. To make good policy, we need to consider the complex context of the situation. If only RCTs are used, it will likely be difficult to produce good public policy and the process will fail.

However, policy typologies are just the beginning of an analysis. For example, theories of policy tools or policy design have begun to emerge. To develop the classification of public policy and evidence-based policy, it is necessary to use them. Table 4 represents a tentative assumption and can be developed into a more sophisticated model.

Finally, it is useful to differentiate evidence-based policy from evidentialism (a concept of philosophy). According to Miriam Schleifer McCormic, "the dominant view among contemporary philosophers is that the only good reasons for believing are evidential, namely reasons based on evidence. I will call this view 'evidentialism'". (McCormic, 2014, p.1).

It would seem that evidence-based policy tends towards evidentialism, at least in its aims. Actually, as Munro asserts, "it (evidence-based policy) offers solid evidence and evidence is objective, free from personal bias and self-interest" (Munro, 2014, p. 51). But as mentioned earlier, evidence has diverse meanings; it includes quantitative research, qualitative research, and so on, all of which help RCTs to produce good evidence. However, if only RCTs results are taken into account, judging whether a particular policy will work is all but impossible. As Cartwright and Hardie write, we need to seek "support factors" (Cartwright and Hardie, 2012, pp.54-58; Munro, 2014, p.61).

Given such statements, pure evidentialism seems not to fit evidence-based policy in all aspects. To make successful policy, not only is rigorous scientific evidence needed, but also needed are many other types of evidence. In the making of public policy, referring to public opinion and following the

mandates of democracy are required. As Cairney states, “policymakers use scientific evidence in a limited way before making major decisions” (Caireny, 2016, p.129). In such a situation, the diversity of public policy should be considered by both researchers and policymakers. In this regard, we should devise and respect policy advisory systems that seek appropriate relations between the two groups. It is likely that policy typologies and policy advisory systems are related. While this paper does not pursue the idea, this seems a topic worthy of exploration in a future thesis.

In this paper, the relationship between public policy and evidence has been examined. Using policy typologies, we have recognized the diversity of public policy. However, the policy typologies identified here are not perfect. There is still room for improvement.

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