Mapping the mix: Linking instruments, settings and target groups in the study of policy mixes

3 authors:

Céline Mavrot
University of Lausanne
64 PUBLICATIONS   **284** CITATIONS

SEE PROFILE

Susanne Hadorn
Universität Bern
36 PUBLICATIONS   **90** CITATIONS

SEE PROFILE

Fritz Sager
Universität Bern
260 PUBLICATIONS   **2,032** CITATIONS

SEE PROFILE

Some of the authors of this publication are also working on these related projects:

Project   Veterinary drug regulation View project

Project   Capital City Dynamics: A Comparative Analysis of Innovation and Positioning of Secondary Capital City Regions View project

Mapping the mix: Linking instruments, settings and target groups in the study of policy mixes

Céline Mavrot, Susanne Hadorn and Fritz Sager

Abstract

This article proposes the extension of a conceptual framework aimed at analysing policy mixes and their outcomes and demonstrates its value added for the study of sustainability transitions. The argument is that policy mixes research should not focus only on the **form** of policy instruments, but also on their implementation **context**. Policy mix **form** designates the specific _policy instruments_ that are involved according to a _policy strategy_. Policy mix **context** includes the specific _setting_ where each policy measure is implemented, such as enterprise or family. It also includes the specific _target group_ of each measure, such as youth or smokers. We apply this conceptual framework to the policy concept and implementation of tobacco control policies in Switzerland, which are an exemplary case for analysing transitions as they are geared towards behavioural change. In a mixed method approach, we triangulate different sets of quantitative and qualitative indicators in order to assess the implementation of eleven subnational policy mixes. Our findings show that taking into account the moderating role of settings between policy instruments and target groups allows for a more in depth analysis of policy processes. Observing the interactions between the four elements policy instruments, policy strategy, the implementation settings and the target groups allows capturing the complexity of policy mixes, at the crossroads of policy design, policy implementation and policy outcomes. Taking implementation settings and target groups into account in the analysis of policy mixes allows for a refined understanding of policy compliance and thus, from a broader perspective, of sustainability transitions.

1. Introduction

In this concept-building study, we propose a conceptual framework that aims at analysing complex policy mixes and related policy outcomes. By proposing an extension of Rogge and Reichardt's model (2016) through the integration of settings and target groups on the meso- and micro-level of policy processes, we strive to increase the context-sensitivity of policy mix research. We apply this extended model to the case of Swiss tobacco control policies on the basis of four evaluation criteria (coherence, credibility, adequacy and stability). Examining target groups and settings is not new to policy studies

but it has not been considered so far in the policy mix literature. Policy research has increasingly focused on policy mixes to address the question of complex policy portfolios (Howlett and Rayner, 2013), both regarding policy formulation and policy implementation. In recent theoretical developments, policy mixes have been defined as "complex arrangements of multiple goals and means which, in many cases, have developed incrementally over many years" (Kern and Howlett, 2009, p. 395). Thereby, future research could benefit from a stronger focus on the context in which policy instruments within policy mixes come into play.

The question raised in this study is relevant on several accounts: First, "the actor and institutional context in which instruments operate will be crucial in determining their effects" (Flanagan et al., 2011, p. 709). Next, the specific coordination requirements of policy mixes to understand the dynamics of policymaking, in particular horizontal coordination among departments, has to be studied (Chung, 2013, p. 1057). In fact, the quality of the coordination during policy delivery is crucial in the success of complex policy mixes. As coordination processes are highly context-sensitive activities, a deeper understanding of the location where they occur, and the actors involved in them, is hence required. Drawing on these theoretical insights, we propose a conceptual model that emphasizes the specific context in which policy instruments are implemented –the settings–, and the target groups with which policy instruments interact. The term 'setting' is used differently to Hall's (1988) definition (i.e. the calibrations of an instrument). We follow the definition used in public health literature, in which settings "are major social structures that provide channels and mechanisms of influence for reaching defined populations" (Mullen et al., 1995, p. 330). Examples for settings are school or worksite. The purpose of this refined context-sensitive focus is to understand at which condition policy mixes can genuinely foster behavioural change among its policy target groups, which is in turn the key component of sustainability transition. When considering the importance of policy compliance in the success of policy mixes, the little analytical attention paid to actual behavioural change at a micro- and meso-level of action is striking. Filling this gap is the focus of the present study.

We argue that smoking prevention policy is a suitable case to sustainability transition. Sustainability transition in the health policy field covers the search for long-term improvement of health indicators, thereby improving the well-being of societies and limiting the negative consequences on health systems (de Andrade, 2016). In this sense, health transition is a specific element of sustainability transitions, and tobacco control is an emblematic case for transitions since behavioural change is central to policy success. Sustainable transitions are usually understood as a way to better meet social needs and threats in the longterm, often requiring systemic changes (Janssen and Moors, 2013, p. 1360). In the case of tobacco control, the transition requires behavioural change in order to eliminate the use of a harmful product that has detrimental effects at the society level. The challenge of bringing target groups to comply with tobacco control policies has long been studied, among other in evaluation studies, which therefore provide interesting insights for the transition literature. Moreover, being a complex policy issue aimed at a wide range of policy targets through various policy instruments (information, bans, incentives), tobacco control is a model case for policy mixes. Finally, similar to policies restricting polluting industries, the aim of tobacco control is to encourage industry decline and to get rid of a product.

Indeed, health policy research has a long-standing tradition of integrative analysis considering the interaction effects between complementary policy instruments implemented at different governance levels (e.g., Babor et al., 2003; Sager et al., 2015). Because it focuses on policy measures that are directly aimed at changing people's behaviour, health policy research draws attention to the

importance of considering target groups and the context in which they evolve (Ravindran and Kelkar-Khambete, 2008). Health policy research does usually not only assess the policy design ex ante as often done in policy mix studies, but also the effect of mixed measures in various population subgroups. We believe that the micro- and meso-level of analysis used in health policy studies is highly valuable for the research on policy mixes. Therefore, this article aims at closing the gap between distinct research traditions that could benefit from a conceptual dialogue.

In the present study, we detail a conceptual framework for analysing the effectiveness of policy mixes and their ability to induce behavioural change as well as transition processes. In Section 2, we present some insights from policy instrument and health policy research, and introduce our evaluation approach. We then present our conceptual policy mix model. Section 3 presents the empirical data underlying the case study of cantonal tobacco control programs in Switzerland. These policy mixes include combinations of various instruments (e.g. information campaigns, cessation aids, smoking bans) that are implemented in different settings (e.g. market, school, internet) to achieve behavioural changes within the selected target groups (e.g. adolescents, smokers, retail staff). In Section 4, we propose an empirical illustration of the role of settings and target groups in the analysis of policy mixes. The results are discussed in Section 5, and conclusions are drawn in Section 6 regarding the contribution of evaluation and health policy studies to current research on policy mixes as well as on sustainability transitions.

2. Policy mix research and realistic evaluation

We consider the realistic evaluation as apt approach for the study of policy mixes and, will derive our conceptual model from this framework.

2.1 Policy mixes, sustainability transitions and policy processes

The literature about policy instrument selection has emerged over several decades within different disciplines and has shifted its focus several times (Howlett and Rayner, 2007, p. 2). In the current third wave, authors such as Flanagan et al. (2011) have claimed that besides the instrument combination, also the processes of instrument mix emergence and instrument interactions have to be treated as elements of a policy mix. This requires a considerate inclusion of implementation aspects. Borrás and Edquist (2013, p. 1520) stress "that differences in instrument mix outcomes might not necessarily be related to the nature of the selection, customization and combination of different policy instruments (…), but to their actual implementation". Indeed, both policy design and policy implementation should be key components of policy mix analyses.

Policy mixes are particularly valuable in actively "fostering 'directed' transitions" (versus more incremental change), this objective being urgent in the case of sustainability transitions (Kivimaa and Kern, 2016, p. 206). The sub-topic of sustainable health transitions is particularly salient because health systems are currently undermined by several societal challenges like aging society, unhealthy behaviour and increased health costs, thus creating the need for a structural change through innovative healthcare practice (Janssen and Moors, 2013, p. 1360). Smith et al. further suggest that future research open "the blackbox of public policy" by incorporating "the analysis of policy processes as part of the study of innovation" (2010, p. 446). We intend to do so by including evaluation and health policy literature –both paying close attention to policy implementation and policy outcomes– into the analysis of policy mixes.

2.2 Realistic evaluation: the importance of the policy context

Our theoretical approach builds on Pawson and Tilley's realistic evaluation framework (1997) that was developed "to explore the underlying causal processes by which programmes achieve their outcomes" (Wong et al., 2012, p. 91). It is based on the triad contextmechanism-outcome (CMO), where mechanisms make the link between the context and the policy outcomes. Each policy instrument triggers mechanisms that differ depending on the context and will in turn generate different outcomes. The objective is to determine through cross-case comparisons how a given mechanism "plays out in different contexts and produces different outcomes, thereby allowing inferences about the generative causality of different contexts" (Greenhalgh et al., 2009, p. 398-99; Befani et al., 2007; Sage and Andereggen, 2012). Within policy mixes a given measure may activate different mechanisms depending on what kind of measures it is combined with. Policy mixes thus provide different sets of opportunities for the target groups to react to. This approach highlights that: "it is the participants' reaction to the opportunities provided by the programme that triggers the change (…). A realist approach therefore looks for interactions among the opportunities or resources provided by the intervention and the reasoning or responses of the participants" (Wong et al., 2012, p. 92). Observations at a micro- to meso-level will then allow drawing conclusions for a more general level of policy design. This approach contributes to a stronger consideration of policy mix outcomes, an aspect that has been disregarded in policy mix literature according to Miedzinski [RP special issue].

The studied policy instruments are categorized as carrots, sticks and sermons. Sticks refer to the regulations undertaken "to influence people by means of formulated rules and directives" (e.g. bans). Carrots include positive or negative incentives involved in the policy delivery. Sermons "cover attempts at influencing people through the transfer of knowledge" (Bemelmans-Videc et al., 1998, p. 31–33). Coordination is a further instrument that is crucial for the quality of the policy mix delivery. These instruments have to be combined, because beyond simple individual behaviour, change is much about how the state shapes the possible options at a structural level (Shove, 2010).

2.3 Completing the framework of policy mix: bringing the settings and target groups in

In the following, we present our policy mix model. The United Nations has included "good health and well-being" in its new Sustainable Development Goals in 2015 and the World Health Organization (WHO) has designated tobacco as the "single greatest preventable cause of death in the world today."1 In 1986, the WHO Ottawa Charter for Health Promotion has established a so-called "settings approach": "The focus on new lifestyle and environmental challenges to health called for regulation in sectors other than health (…), while the focus on supportive environments introduced achievement of a common health purpose through settings approaches" (Kickbusch and Gleicher, 2012, p. 36); this approach holds that "governance for health requires a synergistic set of policies, many of which reside in sectors other than health and outside government and must be supported by structures and mechanisms that facilitate collaboration" (Kickbusch and Gleicher, 2012, p. ix).

Focusing on the micro- and meso-level and on the policy effects shows that the *settings* in which policy instruments operate are a crucial implementation factor in public health research. The macro-level of action comprises broader contextual factors that shape the policy process. We further define the micro-level as the individual level of action and the meso-level as the organizational level of action. We define the setting of a policy intervention (meso-level of action) as being "the social system(s) in which person/entities designated for change are reached" (Lévesque et al., 2005, p. 65). Consequently,

settings represent the immediate contexts where policy interventions take place. Considering the specific settings where interventions are implemented instead of analysing the 'policy field' as a whole fosters a more precise understanding of the policy processes. Hence, the settings in which policy interventions take place are not external to the policy instruments but rather part of them.

The inclusion of settings in the analysis is particularly beneficial because they operate between the implemented policy instruments and the specific target group. This allows for a consideration of the moderating effects that occur in a contextualized way when a policy measure meets its recipients. Thereby, the context is no longer considered only as a macro factor englobing the policy process, but is also decomposed at the meso-level and analysed with regard to the specificities of each policy intervention occurring in a given social subsystem. In a nutshell, settings help specifying the "policy context", when the objective is to get the "same message to target group in several locations" (Peters et al., 2016, p. 294).

Similarly, the analysis has to take into account the existence of multiple settings within a policy mix: "the tendency for different settings initiatives to work in isolation from one another makes it challenging to apply a model of evaluation that explicitly tracks beyond and across settings" (Dooris, 2005, p. 62). The different actors reaching the final target groups (e.g. smokers, youth) in various locations are of great importance in the analysis: we call them *multipliers*. Like intermediaries, we conceive multipliers "as bottom-up policy implementers that can also support the establishment of new actor networks and articulation of interests to bring about change" (Kivimaa, 2014, p. 1371). The settings represent the multipliers' immediate context of action. When we talk about settings in the broad sense, we also include the multipliers, whose actions are crucial for the activation of each corresponding setting and the anchorage of the policy interventions within it (e.g. school teachers, social workers, police, medical personnel). Recent transition management studies on the health sector have acknowledged the importance of multipliers for health-care transition (Loorbach and Rotmans, 2010; Kivisaari et al., 2004). The associated coordination efforts among settings and actors is highly relevant for the success of the policy mix (e.g. Provan and Kenis, 2007).

Special attention is also devoted to the interactions between target groups and the policy instrument at the micro-level. Target groups are defined as "those persons or entities designated for health behaviour change" (Lévesque et al., 2005, p. 65). Retracing the reactions of target groups to policy interventions allows understanding the retrofitting process during the policy cycle, which is crucial for policy learning. Health policy research traditionally closely monitors the ways target groups react to health interventions and authors have highlighted the necessity to address "targeted community" and to examine the influence of "environmental factors" (Latkin and Knowlton, 2005). This is due to the will to tailor health intervention to the particularities of each subgroups for a better global impact. Public authorities have historically agreed to spend a significant level of resources to the monitoring of health intervention and their impact (i.e. behaviour change), because of the expected long-term benefits on costs expenditure (Merkur et al., 2013).

For these reasons, the focus of health policy research on settings and target groups in program evaluation can contribute to the analysis of policy mixes and in particular of sustainability transitions. These two crucial factors –settings and target groups– have often been overlooked, especially in understanding change. In fact, policy mixes are not only made of instruments and strategies (*sender side* of the policy), but also of targeted groups and social (sub)sectors (*recipient side* of the policy). This is the reason why we argue that the micro- and meso-levels of analysis are very promising for refining

the study of the macro-level of policy mixes. In Fig. 1, our conception of policy mix is presented based on the model of Rogge and Reichardt (2016).

Importantly, the model is not meant to map policy reality but to evaluate policy mix effectiveness, i.e. it is not a descriptive illustration but an analytical evaluation model. Evaluation is meant to assess its subject and therefore needs Weberian ideal types, i.e., meaningful analytical constructs in order to analyze concrete empirical observations by measuring their differences from the model (Weber, 1980, p. 9–10). Evaluation is interested in the effectiveness of the policy. The model therefore includes the elements of the policy as described above. However, implementation of the policy differs from the ideal-type due to exogenous factors such as interest groups' influence, political mood or general societal trends affecting target group behaviour. While these factors must be included as intervening variables in the empirical test, they cannot be part of the ideal type as they are outside the policy.

The policy mix concept consists of four aspects: 1) the elements (we call it the **policy concept**) describe the *interacting policy instruments* and the superordinate *policy strategy*; 2) the **policy processes** designate both *policymaking* and *implementation*. 3) The characteristics (we call them **evaluation criteria**) are the overarching "determinants for the performance of the policy mix" (Rogge and Reichardt, 2016, p. 1629), and include four criteria: *consistency* (are the elements of the policy mix aligned and work towards the same goal), *coherence* (is the policy mix synergic and systematic), *credibility* (is the policy mix believable and reliable) and *comprehensiveness* (is the policy mix extensive and exhaustive). Together, they are used to determine whether the policy mix will be or was successful. Reichardt and Rogge further added a fifth criteria, stability, which depicts the long-term stability of the policy mix (2016, p. 65). 4) The **dimensions** qualify some relevant elements of the broader policy context, such as the different *governance levels* or *policy fields* involved, as well as *time* and *geographical factors* (Rogge and Reichardt, 2016, p. 1628-29).
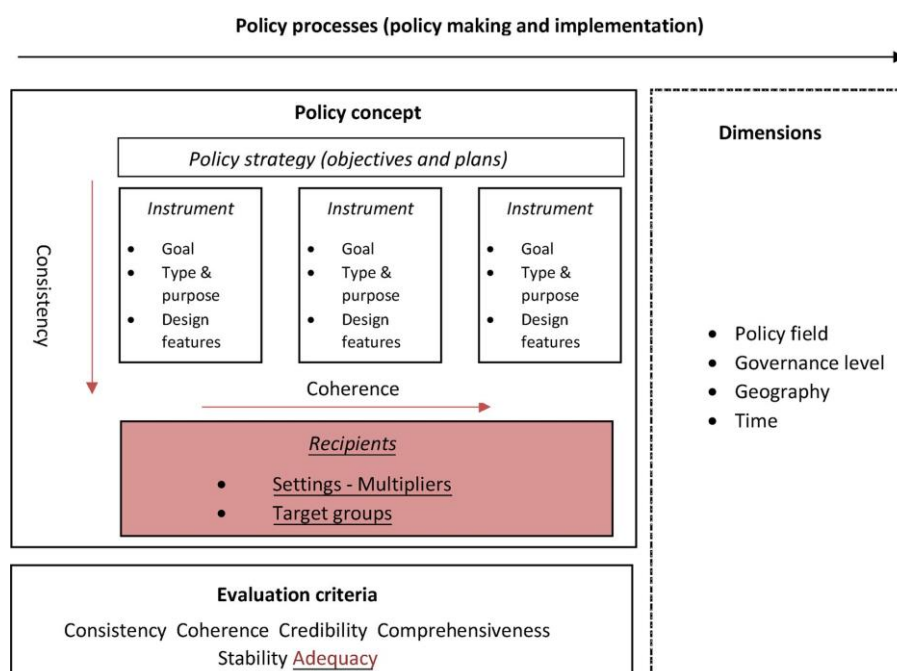

Fig 1. Model of Policy Mix Including Settings and Target Groups. Adapted from Rogge and Reichardt (2016, p. 1629).

The elements underlined in Fig. 1 are our contributions to Rogge and Reichardt' model (2016). First, we complement the **policy concept** part: next to *policy instruments* and *policy strategy*, we integrate

a recipient part, containing *settings* and *target groups*. In this way, interactions between settings, target groups, policy strategies and instruments can be scrutinized. It is at these setting and target group levels that the policy mix concretely takes effect, hence their importance. For instance, a policy mix concept can be consistent (i.e. every instrument is oriented towards the same goals) but have a lack of coherence (e.g. one important target group is forgotten, or the different instruments are not well coordinated with each other). Thus, policy mixes can be studied not only with regard to their *form* (which *policy instrument* are included according to what general *policy strategy*), but also with regard to their *implementation context* (which *target groups* are addressed in which *settings*). Policy instruments and policy strategy alone cannot account for the whole complexity of the policy processes. The way target groups and settings are adjusted to each other in the policy mix is crucial. Thus, including the implementation context into the analysis of impact pathways enables policy makers to make "more robust assessments of actual or anticipated sustainability effects of policy mixes".

Second, we add one further evaluation criterion, which is *adequacy*. We define *adequacy* as the concordance between the initially planned delivery and the effectively implemented delivery. This criterion is commonly used in evaluation literature (e.g. Bussmann et al., 1997; Habicht et al., 1999) and is crucial because it links the policy concept with the policy implementation. This, in turn, allows for a differentiation between policy failure (e.g. the target group changes its behaviour in the expected way without solving the underlying societal problem) and implementation failure (e.g. the interventions are not implemented as planned) (Ledermann and Sager, 2009).

3. Research approach

3.1 Material and methods

The empirical evidence presented in the following case study was generated within a current research and evaluation project of cantonal tobacco control policies in Switzerland. The project's aim is the assessment of policy outcomes within a new policy framework. We assess each tobacco control program over the first three decisive years of its implementation, in order to see whether reorientations are already required at this stage. Therefore, the evaluation focus is on policy outcomes (i.e. the obtained behavioural change among target groups), and not on policy impact (i.e. the decrease in smoking prevalence among the whole population). The evaluation includes the assessment of fourteen cantonal policy mixes and a comparative study. The study covers the assessment of the concept and implementation of each single instrument, as well as of each of the policy mixes as a whole.

This analysis is based on qualitative and quantitative data. These include, firstly, a three-year time series of yearly self-evaluation questionnaires about the implementation at both the cantonal program-level (coordination of the policy mix) and project-level (implementation of single instruments). This information was collected for all projects under study totalling in more than 530 self-evaluation reports for eleven cantons from July 2012 until end of 2017. Secondly, six to fifteen in-depth, semi-structured interviews were held with all identified key players for each cantons totalling in 119 interviews in eleven cantons. Sampling was aimed at precluding bias as complete coverage of all relevant actors was sought and largely achieved with only punctual exceptions that did not affect validity. Thirdly, additional cantonal documentation (e.g. policy concept; previous policy evaluations; statistical data) enriched the database. Fourthly, the data was completed with a context analysis

including parliamentary debates, media reports and canton-specific data on epidemiological, political, legislative, socio-demographic and economic factors.

Due to the diverse data sources, a mixed method approach has been selected to the analysis. The political context has been assessed by content analysis to identify relevant political decisions and more importantly, to map the overall political mood within which the programs were implemented. The atmospheric impact of the political mood (i.e. 'dimensions' Fig. 1) has been assessed in interviews with stakeholders.

As for the assessment of the evaluation criteria (e.g. coherence, credibility) of the policy mix, both document analysis and interviews were qualitatively analysed in order to capture how the structure of the policy concept impacts agency and implementation behaviour. The causal effectiveness analysis was based on the reported output and outcome performance in the self-evaluations provided by the project teams. These reports were largely completed by independent data collection beyond self-reporting. The core data were quantitative information on service delivery (such as how many services were provided, how many people were reached, how many target organisations were served etc.) and on target group response (e.g. how many people or firms participated, signed self-binding agreements, changed their behaviour in the way expected etc.). The effect of program management was qualitatively measured based on interviews and document analysis in combination with the quantitative performance information.

Due to both the vast data material and the differences between the programs, the cases presented in the following are bound to be illustrative rather than complete. All reported findings, however, are gained from the multi-method triangulation presented here.

3.2 Tobacco control policy mixes in a multi-level governance context

Switzerland is one of the most federalist systems in the world with extensive competencies at the member state level (cantons), who are responsible for the implementation of federal law with the right to adjust it to the cantonal particularities (Sager et al., 2017). This autonomy leads to great differences in the policy delivery among the cantons and accordingly to uncertain compliance (Sager and Thomann, 2016). To circumvent these uncertainties, the federal level employs strategies for his policies to be implemented, such as federal policy programs that incentivize cantons to adopt proposed measures (Moser and Sager, 2015) or vertical expert networks to establish common ground for harmonized action among cantons (Mavrot and Sager, 2016). Tobacco control is an example of such coordination strategies.

In Switzerland, the federal state is responsible for some general aspects of tobacco control, such as tobacco taxation. However, most of the responsibilities lie with the 26 cantons in their own territory: regulation, law enforcement, prevention activities. Since the 1970s, various tobacco control measures were implemented in a rather uncoordinated fashion within each canton. Since 2009, however, after some crucial financial and organisational changes, each canton is now responsible for designing a real policy mix (cantonal program), comprised of different tobacco prevention instruments. The incentive to achieve tobacco control through a genuine policy mix consists in financial incentives from the national level. Each cantonal program now includes a central steering body responsible for the coordination of the different instruments, whilst the latter are implemented by various cantonal players in different settings (Sager et al., 2015).

Fig. 2 displays the elements of the cantonal policy mixes, where the first level depicts the four instruments at disposal for tobacco control policies. First, the structural prevention (*sticks*) comprises all legislation-related aspects of tobacco control: ban on sales to minors, smoking ban in public places, advertisement ban and tobacco taxation. Second, *carrots* include interventions that aim at behaviour change through incentives measures, e.g. smoking cessation support. Third, information (*sermons*) encompasses activities to enhance the population's tobaccorelated knowledge. These three instruments are substantive. For an example of such three instruments in the field of energy transitions, see Burke and Stephens (2017). Fourth, coordination is a procedural instrument aiming at improved policy delivery through the optimal organization of the policy mix and can be implemented independent of the policy field. Level two of Fig. 2 portrays different settings in which interventions can be delivered; each of these settings is anchored in a broader sociocultural context (e.g. residential setting or market settings (Rosenow et al., 2017)). In some cases, instruments cover more than one setting or settings might overlap. The third level of Fig. 2 portrays the target groups of the policy mix whose behaviour change is pursued (e.g. households (Rogge et al., 2017)). The elements represented in Fig. 2 are present in different combinations in each canton, depending on local needs. Each program includes eight to nineteen substantive instruments within at least three settings, whereby all instrument types are represented in each mix. Numerous combinations of settings, target groups and instrument types are possible (e.g. information campaigns including counter-marketing strategies can be implemented in the setting school targeting children or in the setting leisure targeting adults; smoking cessation courses can be conducted in the setting workplace targeting adult smokers or in the setting internet targeting adolescents).

The combination is only stable in the case of sticks because the respective instruments are anchored in legislation and largely similar in all cantons. In this respect, it should be noted that tobacco taxes fall under the responsibility of the federal government and are thus excluded from the cantonal programs. However, the tobacco taxation policy at the federal level interacts with the cantonal tobacco control policies. A strong national policy in this area would be likely to reinforce the cantonal policy mixes. According to the WHO, "a 10 percent price increase on a pack of cigarettes would be expected to reduce demand for cigarettes by about 4 percent in high-income countries". In Switzerland, the national taxation policy is not as proactive as in some pioneering countries, such as Australia or Ireland for instance. The latest increase of tobacco taxation from the Swiss national government is dated from the year 2013 when the price of cigarettes increased 10 cents per pack. We expect that this moderate national taxation policy has only a limited impact on the cantonal policy mixes. By sending a message consistent with the cantonal tobacco control policies (tobacco is a special product and should not be available to young people), a higher tobacco taxation would have enhanced the credibility of the cantonal policy mixes. It would also have reinforced their comprehensiveness, by adding an additional mean to the preventive strategy. Moreover, by pursuing a coherent strategy across different levels of government, the overall policy would also shown a higher degree of consistency. For these reasons, a given policy mix should always be closely analysed in relation to the corresponding policies or policy instruments of other governance levels be it subnational, national, or international ("Dimensions" aspect of the policy mix, see Fig. 1).

To illustrate more specifically the general typology pictured on Fig. 2, one precise example of a cantonal policy mix can be briefly depicted. In one of the biggest study canton, the tobacco control policy mix contained seventeen projects. Seven of these projects aimed at eliciting behavioural change (*carrots*) among youth (e.g. interactive interventions in leisure centres about tobacco industry marketing

strategies targeting youth), smokers (e.g. consultations in the medical setting), as well as most specific target groups (e.g. smoking cessation support in alcohol cessation institutions). Five further projects consisted of information activities (*sermons*), such as a smoke-free billboard campaign (public area setting) or the integration of factual information about tobacco within primary education (school setting). In addition, three projects addressed structural prevention (*sticks*) by controlling the proper enforcement of the smoking ban in public places (public area setting) and of the ban on sales to minors (market setting), and by preparing a future reform on tobacco advertising restrictions. Finally, one specific project was dedicated to the continuous evaluation of the efficacy of these different policy instruments, and one was intended to ensure the coordination between actors and projects within the cantonal policy mix. Thus, these two latter projects were procedural ones.

Instrument	Carrots - smoking cessation courses and competitions - cessation hotlines - teaching modules	Sticks - ban on sales to minors - smoking ban in public places - advertisement ban	Sermons - media campaigns - information events - counter-marketing	Coordination

Setting	School	Leisure / sport	Market	Public area	Work-place	Internet

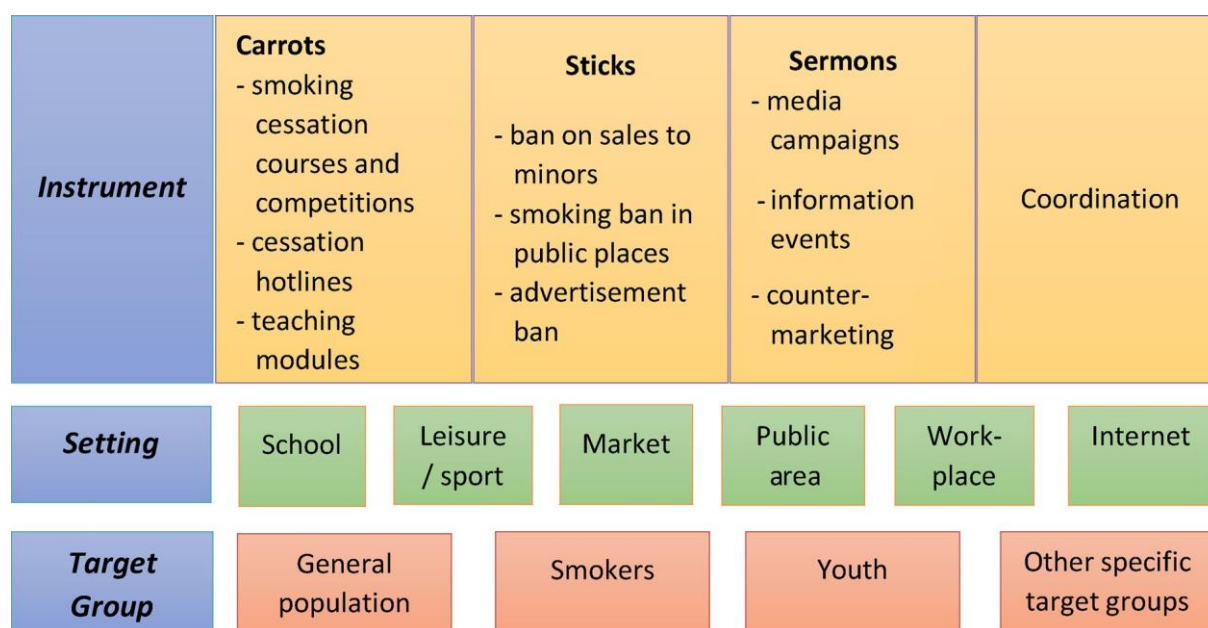| Target Group	General population	Smokers	Youth	Other specific target groups

Fig. 2. Cantonal Tobacco Control Policy Mix (Programs).

Note: Due to the large diversity of empirically combinations of instruments, target groups and settings, Fig. 2 does not depict specific configurations. However it illustrates examples within each category (level) that are combinable in different ways within the cantons.

4. Results: assessing policy mix efficacy at the light of settings and target groups

We now turn to the application of this model to our case of tobacco control policies in Switzerland. As argued above, due to its exemplary policy mix structure, we consider the case an apt venue to learn from for the study of sustainability transitions. We illustrate our theoretical considerations based on the three evaluation criteria *coherence*, *credibility*, and *adequacy*, whilst also touching upon *stability* issues. We outline in which way the focus on settings and target groups allows for a better understanding of the overall policy mix performance from a policy evaluation perspective. We draw illustrative cases from our empirical material for their distinct expressiveness of the aspects we want to highlight. While these cases thus provide mere illustrative evidence, they also are typical for the findings gained from the application of the evaluation criteria.

4.1 Coherence: inter-setting and intra-setting coherences in policy mix implementation

The comparative study of cantonal policy programs consistently underscores the core relevance of inter- and intra-setting *coherence* for the implementation success of the programs and the respective projects. The following example illustrates the importance of settings in the assessment of policy mix coherence. The canton concerned defined the youth as its main target group, whereby the planned policy mix included the promotion of smoking cessation. The specific instruments were, firstly, early detection activities in the 'school' setting and secondly, cessation aids ('carrots') in the 'leisure' setting through a national telephone consultation service or face-to-face consultations in a cantonal health NGO. During the implementation, the 'school' setting was consequently left without a cessation aid for the smoking students identified during early detection. Simultaneously, the 'leisure' setting provided cessation programs, however without having an instrument through which adolescents' attention was drawn to the offer. Because these two settings were not linked to each other (different groups of multipliers), the access of students to the offers in the 'leisure' setting was restrained, for example by their limited mobility. Consequently, smoking students who wanted to quit as a result of the early detection did not have direct access to the needed support, whilst the cessation aid in the 'leisure 'setting was underutilized by this target group.

Nonetheless, without including settings, the policy mix appears to be coherent as both early detection activities and cessation aids were provided. Only by including the meso-level, problems of incoherence within the policy mix are revealed. We group them in two distinct types: (1) 'intra-setting' incoherence designates a situation in which the policy mix *within* a particular setting lacks coherence (e.g. only early detection activities without subsequent provision of cessation aids within the 'school' setting). Such a situation can commonly occur and is often –because of the neglect of settings– integral part of the policy mix. However, considering settings in the analysis (both during design and implementation) proposes a solution strategy. Specifically, a problem of 'intra-setting' incoherence can be compensated by creating (2) 'intersetting' coherence through coordination that links individual instruments and settings (and respective multipliers). This, in turn, can lead to synergies among instruments, such as the mutual enhancement of the early detection measures and cessation aids by improving smokers' access to existing cessation offers and increasing the use of cessation services by this target group. However, for this to work, policy *stability* is required, as the elimination or substitution of one intervention alters the overall policy mix (and possibly also inter-setting) logics. This, in turn, might render the expected interaction effects between the different instruments in distinct settings impossible. In summary, a focus on multipliers and target groups shows that coordination among settings on the meso-level is a necessary prerequisite to successfully create coherence.

4.2 Credibility: variations of policy outcome resulting from multipliers' divergent levels of commitment

The comparative analysis proves *credibility* to be an important driver of implementation success of policy mixes. The following examples show how settings, and especially the respective multipliers' commitment to a certain policy are relevant to policy mix credibility, namely to the likelihood of the policy to be implemented as planned. The first example relates to the 'workplace' setting that is used in several cantons to deliver smoking cessation courses ('carrots') for adults. The concept of this intervention envisages the inclusion of companies to co-finance internal smoking cessation courses and encourage their employees' healthy behaviour through their participation. During the implementation, however, the project faced problems as companies could hardly be engaged in the

project. The management level of companies often did not believe that smoking prevention amongst the staff was part of their remit. Consequently, the project was seldom able to reach the target groups and to have an effect on their behaviour. The second, contrasting example, concerned the 'school' setting in which instruments such as contests, early screening activates, and cessation programs ('carrots') were implemented. During implementation, this setting proved to be the ideal access point to reach a large proportion of students. School directors and teachers showed strong interest in the prevention programs as they traditionally recognise the credibility and the importance of their cooperation in the field of health promotion.

The consideration of settings thus helps to recognise potential weaknesses of a policy mix in regards to its credibility. The cases exemplify the settings' divergent potential to effectively reaching the target population. They illustrate that settings can be more or less appropriate in regards to the likelihood of successfully activating the respective multipliers, because the latter have divergent understandings of their role within a given policy area. Some refuse to be in charge, whilst multipliers in other settings demonstrate considerable commitment. Being aware of differences between settings helps to better assess the credibility of the policy mix when designing it and to more accurately anticipate potential policy compliance or implementation difficulties.

4.3 Adequacy: the role of settings and target groups in effective policy implementation

The criterion *adequacy* aims at determining whether the effectively implemented policy delivery corresponds to the initially planned policy delivery. The comparative evaluation of cantonal programs highlights the crucial importance of settings and target groups alignment for adequate delivery. Two projects within one program are exemplary in this. The following example originates from a canton with an above average smoking prevalence. In order to counter this trend, the canton implemented two smoking cessation courses ('carrots') in distinct settings. The first took place in the 'internet' setting, including online coaching by tobacco experts on Facebook. The second took place in the 'workplace' setting (group smoking cessation courses for co-workers). The newly launched 'Facebook' project encountered a large success, and was rapidly reinforced in the canton. Contrary to this, the 'workplace' project did not find its audience and only a few of the planned smoking cessation courses were organized. The analysis reveals two main explanations: first, participants appreciated the anonymity of the 'Facebook' project, as opposed to the face-to-face courses the firms. Second, whilst the 'Facebook' project could be activated spontaneously, the 'workplace' project delivered courses at a fix place and time, restricting people's flexibility.

Whilst the two projects were seen as complementary in the conception (i.e. proposing smoking cessation help with various incentives for different audiences), the implementation showed that only one was needed. The focus on the settings and on the target group illustrated that the 'workplace' project could be replaced by the 'Facebook' project. The target group's reactions hence demonstrate that it is not the measure *per se* that was rejected, but its delivery's form (wrong setting). However, the very focus on settings and target groups revealed that it was not necessary to cover all settings in this matter, and that although being theoretically complementary, one of the two projects constituted in fact an unnecessary duplicate that did not enhance the policy mix as a whole.

5. Discussion

The aforementioned examples illustrate the analytical advantages of including settings and target groups in a broader concept of policy mixes. The findings show that both the examination of the policy

concept (i.e. policy design) and policy implementation are enriched through a better understanding of meso- and micro-level particularities that affect the policy process. The examination of the policy mix is demonstrably more meaningful if the moderating role that settings play between the policy mix as a whole and the ultimate target group is considered. In turn, the disregard of this intermediate level might result in false conclusions regarding the expected performance of a policy mix. We argue that this is insightful for the study of sustainability transitions.

Firstly, as regards policy design, a stronger consideration of the micro- and meso-levels reveals potential weaknesses within the policy mix by ensuring a better understanding of interactions between contextual factors (e.g. settings and multipliers) and behavioural changes within target groups. Our results show that different groups of multipliers have varying levels of commitment to a certain policy field, ultimately influencing the quality of policy delivery. The choice of one or another setting within the design phase will thus be decisive for its *credibility* and for a more accurate anticipation of actual policy implementation, ultimately determining the reach of the target group. The more, not only multipliers' but also target groups' reactions to a given instrument are intertwined with the implementation context (setting). The target group might consider one setting more suitable than other settings to make use of a given instrument because of reasons of anonymity, mobility (access), and flexibility. Thus, the selection of a setting will either increase the expected *adequacy* (suitable setting) or reduce it (unsuitable setting). Thus, being aware of the effects of mesolevel particularities affecting target group behaviour can help to accelerate changes in behavioural patterns. In this perspective, the *context* at the meso-level is perceived as multidimensional, and sequenced among the multiple locations where the policy mix is implemented.

Secondly, the inclusion of settings into the analysis of a policy mix is also particularly valuable for policy implementation as it highlights the importance of coordination. The ultimate target group can only be addressed successfully if the numerous players involved in policy delivery cooperate effectively. Specifically, a policy mix can only be coherent if coordination ensures the collaboration within settings and, most importantly, between different settings, thus creating 'intra-setting' and 'inter-setting' coherence. Thereby, the outcomes of the individual interventions can be enhanced through the creation of synergy effects. The interaction among the single components implemented in different settings has a reinforcing effect, increasing the overall policy mix performance. Without considering the settings, however, the necessity for targeted coordination actions may not be as evident, because the distance between the interventions, implemented in different -and not naturally linked- settings, remains obscure. This finding is linked to Ossenbrink et al. (2018) [RP special issue] call for a differentiation between the bottom-up and top-down approach to delineate policy mixes. Specifically, policy makers looking at the policy mix from a macro perspective (applying the top-down approach) consider all available instruments and might assume perfect interaction between them. However, in practice, implementation partners have a different perception (or a bottom-up view) of the policy mix (e.g. due to activities in different settings) and might not be aware of all existing instruments, thus not recognizing the necessity for collaboration. Synergistic interactions between single instruments within a mix can therefore be achieved only by, firstly, a more considerate recognition of the differentiating perspectives of policy makers and practitioners implementing the policy mix on the ground, and secondly, subsequent coordination among the various actors involved. Lastly, we find that the stability during policy mix implementation is an important precondition for coherence, because the discontinuation (or substitution) of one instrument causes changes in both the intra-setting and the inter-setting logic of a policy mix. A stability problem should thus not be considered in isolation but

rather in connection with is effects on the aforementioned policy mix coherence and coordination capacity.

6. Conclusion

We have explored the significance of settings and target groups within the analysis of policy mixes and the implications on policy performance. By extending Rogge and Reichardt's (2016) policy mix concept and including the moderating role of settings between policy instruments and target groups, we sharpen the focus on micro- and meso-contextual factors that influence policy processes. In this way, this study contributes to what Howlett and Rayner (2007, p. 13) call the 'third generation' of instrument choice studies that strive at improving knowledge about "designing and adopting optimal 'mixes' of instruments in complex decision-making and implementation contexts". Furthermore, the application of the model to our case within a complex multi-level context including a wide variety of public and private actors follows the call by Chung (2013) and Foray et al. (2012) to pay more attention to the specific coordination requirements of policy mixes on a horizontal level (among and within departments). Finally, the inclusion of the micro- and meso-levels of policy processes follows Shove and Walker's (2010, p. 476) call for a stronger focus on 'dynamics of demand' as opposed to the often predominant focus on 'systems of supply' within the transition literature.

The contributions of this study are valuable for both the design and the implementation stages of policy mixes. Firstly, as regards policy design, the results show that considering settings during this phase can lead to higher policy performance. Particularly, problems of policy acceptance on the meso-level can be anticipated more accurately through an assessment of interactions between setting and policies. Similarly, the findings highlight that reactions of target groups and the subsequent changes in their behaviour are strongly linked with the context policies are delivered in. This insight is particularly important to the field of sustainable transitions, where behaviour change is necessary for policy success. Secondly, this study has clear implications for the implementation of policy mixes and highlights the importance of network management. Thus far, policy mix literature has established the link between coherence and coordination, where coordination "can strengthen coherence by aligning the tasks and efforts of public sector organizations" (Rogge and Reichardt, 2016, p. 1627). The present study supports this claim, whilst the findings go a step further: The inclusion of target groups, multipliers and settings into the policy mix model reveals the strong intertwining of various performance criteria and a wider concept of network management. This is because the levels of coherence, credibility, adequacy and stability depend on the capacity to activate and coordinate all relevant settings and stakeholders.

Within innovation policy analysis, the related insights are all the more important against [e] call for a stronger consideration of network management strategies, arguing that this aspect has been largely neglected. Importantly, collaborative management literature finds that coordination (or what is also called 'synthesizing') "involves engendering productive and purposeful interaction among all actors" (McGuire, 2006, p. 37). This, in turn, is one component of a wider concept of collaborative public management that occurs "both in a vertical context through levels of government and in a horizontal context in which an array of public and private actors are mobilized" (McGuire, 2006, p. 352). It is thus not only the coordination during the implementation process itself ('synthesizing') but in a first step a successful 'mobilizing' process intending "to induce commitment to the joint undertaking and build support from both key players outside the collaborative effort and those who are directly involved" (McGuire, 2006, p. 37) that explains policy mix performance.

Furthermore, we believe that policy mix research can benefit from health policy research. The setting approach has been used to holistically integrate health policies within other policy fields to create a supportive environment ultimately encouraging behavioural change among target groups. This requires the promotion of cross-sector collaborations to enhance overall policy impact (Kemm, 2001). The need for better integrating approaches that focus on the supply side of sustainable policy (e.g. production, technology, organization), and those that focus on the demand side (e.g. consumer behaviour) has been pointed out. It has been argued that the study of sustainability transitions could highly benefit to take better account of a practise-based approach to behaviour change (McMeekin and Southerton, 2012). In fact, research that focuses on social change could gain from "a much wider repertoire of social theory than at present"; public health is a field of study that provides valuable resources for such a research agenda (Shove, 2010, 1281). Within this framework, the notion of target group commonly used in policy evaluation and health policy literature is enlightening, because of its focus on better ways to achieve policy compliance. In fact, transition literature often emphasizes technical or organizational change, but we believe that such changes also require behavioural change to be successful.

We believe that future policy mix research can benefit from a focus on micro- and meso-factors (i.e. target groups and settings) that influence the overall policy, by enhancing understanding of interactions effects between different parts of a policy mix. Finally, the present study has its limitations, because it only displays illustrative evidence from a specific case study. In future research, a more systematic test of the extended model including settings and target groups may confirm the utility of such a refined focus on the context in assessing policy compliance and policy mix performance.

References

Babor, T.F., Caetano, R., Casswell, S., Edwards, G., Giesbrecht, N., Graham, K., et al., 2003. Alcohol: No Ordinary Commodity - Research and Public Policy. Oxford University Press, Oxford.

Befani, B., Ledermann, S., Sager, F., 2007. Realistic evaluation and QCA: conceptual parallels and an empirical application. Evaluation 13 (2), 171–192.

Bemelmans-Videc, M.-L., Rist, R.C., Vedung, E. (Eds.), 1998. Carrots, Sticks & Sermons. Policy Instruments and their Evaluation. Transaction Publishers, New Brunswick, London.

Borrás, S., Edquist, C., 2013. The choice of innovation policy instruments. Technol. Forecast. Soc. Change 80, 1513–1522.

Burke, M.J., Stephens, J.C., 2017. Energy democracy: goals and policy instruments for sociotechnical transitions. Energy Res. Soc. Sci. 33, 35–48.

Bussmann, W., Klöti, U., Knoepfel, P., 1997. Einführung in die Politikevaluation. Helbing & Lichtenhahn Verlag AG, Basel, Frankfurt a. M.

Chung, C.-C., 2013. Government, policy-making and the development of innovation system: the cases of Taiwanese pharmaceutical biotechnology policies (2000–2008). Res. Policy 42, 1053–1071.

de Andrade, M., 2016. Sustainability transition in the health sector in Brazil. In: Brauch, H.G., Oswald Spring, Ú., Grin, J., Scheffran, J. (Eds.), Handbook on Sustainability Transition and Sustainable Peace. Springer, pp. 705–717.

Dooris, M., 2005. Healthy settings: challenges to generating evidence of effectiveness. Health Promot. Int. 21, 55–65.

Flanagan, K., Uyarra, E., Laranja, M., 2011. Reconceptualising the 'policy mix' for innovation. Res. Policy 40, 702–713.

Foray, D., Mowery, D.C., Nelson, R.R., 2012. Public R&D and social challenges: what lessons from mission R&D programs? Res. Policy 41, 1697–1702.

Greenhalgh, T., Humphrey, C., Hughes, J., Macfarlane, F., Butler, C., Pawson, R., 2009. How Do you modernize a health service? A realist evaluation of whole-scale transformation in London. Milbank Q. 87, 391–416.

Habicht, J.P., Victoria, C.G., Vaughan, J.P., 1999. Evaluation design for adequacy, plausibility, and probability of public health programme performance and impact. Int. J. Epidemiol. 28, 10–18.

Hall, P.A., 1988. Policy paradigms, social learning, and the state: the case of economic policymaking in Britain. Comp. Politcal 25, 275–296.

Howlett, M., Rayner, J., 2007. Design principles for policy mixes: cohesion and coherence in 'New governance arrangements. Policy Soc. 26, 1–18.

Howlett, M., Rayner, J., 2013. Patching vs packaging in policy formulation: assessing policy portfolio design. Polit. Gov. 1, 170–182.

Janssen, M., Moors, E.H.M., 2013. Caring for healthcare entrepreneurs — towards successful entrepreneurial strategies for sustainable innovations in Dutch healthcare. Technol. Forecast. Soc. Change 80, 1360–1374.

Kemm, J., 2001. Health impact assessment: a tool for healthy public policy. Health Promot. Int. 16, 79–85.

Kern, F., Howlett, M., 2009. Implementing transition management as policy reforms: a case study of the Dutch energy sector. Policy Sci. 42, 391–408.

Kickbusch, I., Gleicher, D., 2012. Governance for Health in the 21st Century. World Health Organization Regional Office for Europe, Copenhagen.

Kivimaa, P., 2014. Government-affiliated intermediary organisations as actors in systemlevel transitions. Res. Policy 43, 1370–1380.

Kivimaa, P., Kern, F., 2016. Creative destruction or mere niche support? Innovation policy mixes for sustainability transitions. Res. Policy 45, 205–217.

Kivisaari, S., Lovio, R., Väyrynen, E., 2004. Managing experiments for transition. Examples of societal embedding in energy and health care sectors. In: Elzen, B., Geels, F.W., Green, K. (Eds.), System Innovation and the Transition to Sustainability: Theory, Evidence and Policy. Edward Elgar, Cheltenham, Northampton, pp. 223–250.

Latkin, C.A., Knowlton, A.R., 2005. Micro-social structural approaches to HIV prevention: a social ecological perspective. AIDS Care 17, 102–113.

Ledermann, S., Sager, F., 2009. Problem erkannt, aber nicht gebannt –Der Nutzen einer Verknüpfung von Konzept- und Umsetzungsevaluation am Beispiel der Strategie, Migration und Gesundheit. Zeitschrift für Evaluation 8, 7–25.

Lévesque, L., Guilbault, G., Delormier, T., Potvin, L., 2005. Unpacking the black box: a deconstruction of the programming approach and physical activity interventions implemented in the Kahnawake Schools Diabetes Prevention Project. Health Promot. Pract. 6, 64–71.

Loorbach, D., Rotmans, J., 2010. The practice of transition management: examples and lessons from four distinct cases. Futures 42, 237–246.

Mavrot, C., Sager, F., 2016. Vertical epistemic communities in multilevel governance. Policy & Politics. https://doi.org/10.1332/030557316X14788733118252. early online.

McGuire, M., 2006. Collaborative public management: assessing what we know and how we know it. Public Adm. Rev. 66, 33–43.

McMeekin, A., Southerton, D., 2012. Sustainability transitions and final consumption: practices and socio-technical systems. Technol. Anal. Strat. Manag. 24, 345–361.

Merkur, S., Sassi, F., McDaid, D., 2013. Promoting health, preventing disease: Is there an economic case? Policy summary 6. European Observatory on Health Systems and Policies, World Health Organization Regional Office for Europe, Copenhagen.

Moser, L., Sager, F., 2015. Pfadabhangigkeit in der Mehrebenensteuerung: Das Beispiel Palliative Care. Swiss Polit. Sci. Rev. 21, 437–459.

Mullen, P.D., Evans, D., Foster, J., Gottlieb, N.H., Kreuter, M., Moor, R., et al., 1995. Settings as an important dimension in health education/promotion policy, programs, and research. Health Educ. Q. 22, 329–345.

https://www.researchgate.net/publication/324576034_Delineating_policy_mixes_ Contrasting_top-down_and_bottom-up_approaches_to_the_case_of_energy-storage_ policy_in_California.

Pawson, R., Tilley, N., 1997. Realistic Evaluation. Sage, London.

Peters, D., Harting, J., van Oers, H., Schuit, J., de Vries, N., Stonks, K., 2016. Manifestations of integrated public health policy in Dutch municipalities. Health Promot. Int. 31, 290–302.

Provan, K.G., Kenis, P., 2007. Modes of network governance: structure, management, and effectiveness. J. Public. Admin. Res. Theory 18, 229–252.

Ravindran, T.K., Kelkar-Khambete, A., 2008. Gender mainstreaming in health: looking back, looking forward. Global Public. Health 3, 121–142.

Reichardt, K., Rogge, K.S., 2016. How the policy mix impacts innovation: findings from company case studies on offshore wind in Germany. Environ. Innov. Soc. Trans. 18, 62–81.

Rogge, K.S., Reichardt, K., 2016. Policy mixes for sustainability transitions: an extended concept and framework for analysis. Res. Policy 45, 1620–1635.

Rogge, K.S., Kern, F., Howlett, M., 2017. Conceptual and empirical advances in analysing policy mixes for energy transitions. Energy Res. Soc. Sci. 33, 95–104.

Rosenow, J., Kern, F., Rogge, K.S., 2017. The need for comprehensive and well targeted instrument mixes to stimulate energy transitions: the case of energy efficiency policy. Energy Res. Soc. Sci. 33, 95–104.

Sage, F., Andereggen, C., 2012. Dealing with complex causality in realist synthesis: the promise of Qualitative Comparative Analysis (QCA). Am. J. Eval. 33 (1), 60–78.

Sager, F., Thomann, E., 2016. Multiple streams in member state implementation: politics, problem construction and policy paths in Swiss asylum policy. J. Public Policy. https://doi.org/10.1017/S0143814X1600009X. early online.

Sager, F., Mavrot, C., Hadorn, S., 2015. Addressing multilevel program complexity by evaluation design. Eur. Policy Anal. 1, 90–110.

Sager, F., Ingold, K., Balthasar, A., 2017. Policy-Analyse in der Schweiz. Besonderheiten, Theorien, Beispiele. NZZ libro, Zürich.

Shove, E., 2010. Beyond the ABC: climate change policy and theories of social change. Environ. Plann. A 42, 1273–1285.

Shove, E., Walker, G., 2010. Governing transitions in the sustainability of everyday life. Res. Policy 39, 471–476.

Smith, A., Voss, J.-P., Grin, J., 2010. Innovation studies and sustainability transitions: the allure of the multi-level perspective and its challenges. Res. Policy 39, 435–448.

Weber, M., 1980. Wirtschaft und Gesellschaft: Grundriss der verstehenden Soziologie. J. C. B. Mohr (Paul Siebeck), Tübingen.

Wong, G., Greenhalgh, T., Westhorp, G., Pawson, R., 2012. Realist methods in medical education research: what are they and what can they contribute? Med. Educ. 46, 89–96.