

RESEARCH ARTICLE

How scholars break down “policy coherence”: The impact of sustainable development global agendas on academic literature

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Abstract

Literature on policy coherence (PC) has been expanding particularly since the diffusion of the 2030 Agenda to better understand intersectoral policymaking and steering governance complexity in sustainable development, environmental and climate policies. Through research domain analysis, this article gives systematic evidence regarding the rise of PC literature; moreover, via content analysis, the research highlights the most relevant topics addressed by PC articles published over the last 20 years. Our analysis pinpoints that policy coherence has been studied regarding some research areas, such as sustainable development, environment, climate change, and the increasing transboundary governance concerns. Thus far, PC has been scrutinized mainly by addressing the implementation phase. Evidence suggests that, within the 2030 Agenda framework, future research and theoretical efforts should consider neglected dimensions of the policy process and incorporate them in a process-oriented analytical framework.

KEYWORDS

policy coherence, sustainable development, 2030 Agenda, governance, policy process, content analysis

1 | INTRODUCTION

Policy coherence (PC) has become a key question within a wide array of policy and governance studies dealing with multilevel and international governance, transboundary issues, inter-sectoral policies, and more effective policy processes within the environmental, global sustainable development agendas, and climate change governance (Howlett & Rayner, 2007; Lenschow et al., 2018; Tosun & Lang, 2017). The European Union (EU) and its member states have been increasingly committing to PC about environmental sustainability, cohesion, and energy policies (Bocquillon, 2018; Nilsson et al., 2012; Selianko & Lenschow, 2015), development cooperation policy (Carbone, 2008; Prontera, 2016), and external and foreign policies (Marangoni & Raube, 2014). The PC principle was introduced in EU fundamental law in 1992 (Treaty of Maastricht) and was further reinforced in 2009

(Treaty of Lisbon). In 2001, the European Commission published a white paper advocating a normative governance agenda composed of the principles of openness, participation, accountability, effectiveness, and coherence (European Commission, 2001). In 2010, the European Commission presented a work program on PCD structured on five priority areas: trade and finance, climate change, global food security, migration, and security (Koff, 2016). Over the years, the Commission introduced a wide range of procedures and mechanisms to strengthen EU policy coherence (Adelle & Jordan, 2014; Carbone & Keijzer, 2016; Jordan & Schout, 2005; Selianko & Lenschow, 2015) and commitment to the pursuit of PC.

The successful expansion of the question outside and within academia is also explained by the growing commitment of international organizations, such as the Organisation for Economic Co-operation and Development (OECD), the United Nations (UN), the Food and

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Agriculture Organization (FAO),¹ the World Health Organization (WHO), and the World Trade Organization (WTO), to address complex issues and new policy agendas (sustainable development, climate change, hunger-poverty, and food security, migration; Howlett & Rayner, 2007; Nilsson et al., 2012; Picciotto, 2005; Tosun & Lang, 2017). The question of PC had gained prominence since 2015 when policy makers recognized that coherence and integration into policymaking are becoming essential features of the global 2030 Agenda governance and that the three sustainability dimensions—economic, social, and environmental—must be balanced and mutually reinforced (ECDPM, 2016; Koff & Maganda, 2016; Zeigermann, 2018; Nilsson & Weitz, 2019).² IOs and EU advocate PC as a policy tool to assess the impact of programs and policies for undeveloped and developing countries, and to improve cross-sectoral governance in all countries. Specifically, policy coherence for development (PCD) and policy coherence for sustainable development (PCSD) have become two policy tools whose normative value is widely recognized. In general, policy coherence is considered critical to deal with the implementation challenges that all countries face in addressing a global, integrated and transformative agenda (Morales, 2018).³

The growing attention of the EU, international organizations, and policymakers at global sustainable development agendas on the one hand, and the studies about the need of breaking down the policy silos to achieve more effective governance on the other, justify and explain a careful investigation of the PC literature.

Focusing attention on the growth of the academic literature devoted to policy coherence has a primarily analytical purpose, without dwelling on the actual feasibility and the normative value of the PC. Indeed, the question of PC has been investigated with reference to the following aspects: consistency between goals and outputs within one policy domain (May et al., 2006); policy strategy to pursue coherent goals using multiple but consistent policy instruments (Howlett & Rayner, 2007), compatibility of goals and instruments across substantive policy domains (Lenschow et al., 2018); interactions and interplays between different stages of the policy process (Huttunen et al., 2014; Nilsson et al., 2012). Moreover, PC is also referred to (in)coherence of various modes of managing the connection mechanisms along the implementation process (Jordan & Halpin, 2006; Koff et al., 2020).

Therefore, PC remains an elusive concept that refers to and includes multiple analytical dimensions. It is therefore difficult to grasp theoretically, detect analytically, and measure empirically. Its meaning has been variously defined and unsystematically explored. One of the most accredited definitions in the literature refers to this multiplicity of dimensions and defines PC as “an attribute of policy that systematically reduces conflicts and promotes synergies between and within different policy areas to achieve the outcomes associated with jointly agreed policy objectives” (Nilsson et al., 2012, p. 396). PC has often addressed problems of policy alignment in multilevel and multisector policies and similar and connected aspects such as policy integration, policy interaction, consistency, and synergies among different policy objectives and instruments. Studies on PC and those focused on policy integration (Candel & Biesbroek, 2016), policy coordination

(Peters, 2018), new policy design (Howlett et al., 2015), policy interaction, policy interplay, and policy mixes intersect, and they all deal with compatibility and consistency between goals, instruments, implementation practices, and outcomes in a varied numbers of policy sectors (Rayner & Howlett, 2009).⁴ Studies specifically devoted to PC for development (PCD) and sustainable development (PCSD) have focused attention on PC as a policy tool for transformative development, and questioned the feasibility of PC per se, unrelated to normative dimensions of development and sustainable development (Habel, 2020; Koff, 2021; Mbanda & Fourie, 2019; Thede, 2013).

However, PC is considered by many scholars to be a systemic analytical perspective, potentially taking a step ahead of other strands of study (Huttunen et al., 2014; Koff, 2017; Nilsson et al., 2012; Oliveira et al., 2019). Given the prominence and ambiguity of the concept, it makes sense to dwell on the evolution, content, and most relevant analytical dimensions of the academic literature on this topic and its associated sub-topics to highlight how scientific attention toward it so far, and in order to explore systematic patterns and variations within the PC literature.

The purpose of the present article is threefold: first, to map the vast literature on PC to consider the genesis and the evolution of these studies and investigate the diffusion of this concept over time and across academic-scientific areas and disciplinary fields. Second, to analyze the literature content focused on PC and map the most relevant topics, subtopics, and policy areas within these studies. Third, to investigate PC studies implications and added value, especially policymaking studies and governance approaches. This article aims to indicate the potential and limitations of future empirical research on PC, drawing on academic research of the previous 20 years. The goal is to boost PC analysis in intersectoral environmental and sustainability policies and other complex policy issues such as climate, development and poverty, migration, security, trade, and finance.

This article is organized as follows. Section 2 illustrates why systematic research on PC needs to be discussed and describes the methods adopted for building the two data sets used: the first comprises articles addressing “policy” and “coherence” separately. The second comprises articles addressing “policy coherence” a whole. Section 3 describes the results of topic detection in the first data set and the emergence of a “policy coherence” strand of literature over time. Section 4 presents topic detection results in the second data set considering “policy coherence” as a whole. Section 5 investigates how literature connects “policy coherence” to other dimensions and phases of the policymaking. Concluding remarks discuss the main findings and limits of the research and evaluate the contribution of PC literature in unlocking future research potential of transboundary policies and governance.

2 | INVESTIGATING THE INCREASING ATTENTION TO PC: RESEARCH QUESTIONS AND METHODS

Some seminal articles have triggered scientific discussion and offer additional insights on PC (Carbone, 2008; May et al., 2006; Nilsson



et al., 2012; Picciotto, 2005), indicating that academic attention to what appears to be a promising analytical perspective is growing. In searching for (in)coherence mechanisms within policy processes and synergies between policy domains (Huttunen et al., 2014), some fruitful theoretical indications suggest that research efforts must be directed to the layout of interactions between goals, instruments, and implementation within a policy sector and across policy sectors (Huttunen et al., 2014; Nilsson et al., 2012; Picciotto, 2005). As PC aims to identify and tackle unavoidable trade-offs within policymaking (Jordan & Halpin, 2006; Nilsson & Weitz, 2019, p. 258), some scholars point out that the concept should be unpacked and empirically studied over the whole policy process. They recommend focusing on the consistency of goals and values, outputs, synergies of mechanisms in design and implementation, and coherence of outcomes (Carbone, 2008; Huttunen et al., 2014; Nilsson et al., 2012; Scobie, 2016).

This article aims to answer three main research questions: does a specific “policy coherence” strand of literature exist? How has interest in PC been gaining momentum, and what are the most frequent topics associated with it? How does the PC literature provide a fruitful and innovative analytical perspective on increasing cross-sectoral interactions pervading policy?

To this end, the article analyzes publications in scientific areas of the Scopus database. Scopus collects academic articles from peer-reviewed journals, and the database is an up-to-date source of interdisciplinary publications. Scopus was preferred to WoS because it does not include grey literature (position papers and institutional documents) and books.⁵ First, following the seminal works of Janssen et al. (2006) and Clark (2015) on sustainable development, climate change, and agri-food research domains, we will use research domain analysis (RDA) to study the entirety of publications in a given research domain and to describe new strands of literature, especially interdisciplinary and inter-sectoral ones. We will perform RDA to select the first entire articles related to two separate terms, “coherence” and “policy,” in several research areas in the Scopus database. Then, we will perform on this first data set a second manual search to restrict our field of research and determine whether a subset of literature devoted explicitly to “policy coherence” exists. We will trace the temporal evolution of academic publications over the last 20 years and list the academic journals, countries, and scientific areas within which the articles have been published.

After the first step, we will proceed to the second research step using both automatic and semi-automatic content analysis on both two previous data sets: the “policy” and “coherence” collection and the “policy coherence” one. We will use the Reinert method (1983), an automatic technique for content analysis (Fetscherin & Heinrich, 2015), to identify quantitative and qualitative aspects in developing a given research area. The Reinert method, made available in the R-based version of Itamuteq (Ratinaud, 2014), allows understanding whether the literature provides new topics and patterns that can contribute to a better understanding of PC development over time. Automatic content analysis allows us to consider the main topics and themes covered by the literature without any prior theoretical or analytical constraints. Then we also use a more traditional, semi-automatic content analysis to highlight overlaps and connections with consolidated strands of literature, such as policy coordination and policy integration.

The investigation covers 20 years of academic publications (from January 2000 to December 2019). The time frame was selected after testing the limited number of articles published before 2000 about the topic at hand. By contrast, the number of articles on PC seems to increase considerably after the publication of the Cardiff Report in 1998 and particularly after the European Commission's white paper on policy coherence, published in 2001.⁶

We first selected academic articles using the two different words “coherence” and “policy,” which—even if not connected in the abstracts—revealed general trends in academic attention to the issue. We obtained a set of 2,037 publications. We performed a second extraction using the composite word “policy coherence” from this data set of articles. We obtained a more restricted set of 328 articles better to grasp the PC concept and perspective from policy studies. The two first research steps are shown below, in Table 1 and further on in Figures 1 and 2.

It should be noted that the Social Sciences and the Environment clusters are the most prominent subject areas in which articles on “policy” and “coherence” as well as on “policy coherence” are published. The more we restrict the focus to “policy coherence,” the more the relative importance of the Social Sciences and Environment clusters increases in the literature. The quantitative evidence underlines the salience of the question within the disciplinary fields of political science and economics, and the interdisciplinary field of environmental studies. It is worth highlighting that 25–30% of the literature is concentrated in one country (UK).

Search term	No. of articles	Science area	%	Countries
“Coherence” AND “policy”	2,037	Social sciences	39.0	UK 438
		Environment	12.1	US 308
		Medicine and Health	8.4	F 138
		Economics	7.4	NL 127
“Policy coherence”	328	Social sciences	41.6	UK 92
		Environment	19.5	US 44
		Medicine and Health	7.0	De 34
		Economics	6.8	AU 32 NL 25

TABLE 1 Publications, science area, and countries (2000–2019)

3 | RESULTS: FROM “POLICY” AND “COHERENCE” TO “POLICY COHERENCE” IN SUSTAINABILITY RESEARCH AGENDA

The second step of the analysis aims to explore the wide data set of 2037 articles' abstracts. They were preprocessed using TaLtaC2 software package (Bolasco, 2010). An automatic search procedure identified relevant multi-words, that is, informative sequences of words (Pavone, 2010) repeated at least five times in the corpus (1329 multi-words in total); the measures show that there is a good redundancy, which is fundamental because we are reasoning on frequencies (cf. Lebart et al., 1997; Bolasco, 2010; Tuzzi, 2003). After preparing the text corpus,⁷ we identified the most interesting multi-words in the titles and abstracts (such as “policy coherence”). According to Sbalchiero (2018, p. 202), “The main goal of Reinert's method is to analyse the co-occurrences of words as they appear in portions of text, and thereby identify lexical worlds, or semantic classes.” The algorithm identifies co-occurrences of words in each abstract by constructing a contingency matrix of words per abstract. It provides the basis for analyzing similarities between abstracts, summarized using descending hierarchical cluster analysis. “The clustering procedure hierarchically identifies the factors (clusters) that best represent a lexical world from the distance of the χ^2 between the classes” (Sbalchiero, 2018, p. 203). Finally, a list of the most meaningful words that best represent a topic (semantic classes) is identified by associating the χ^2 between words and classes. The algorithm results allow assessing the topics' grade of association with the modalities of other variables, such as year of publication or journal from which the abstracts were retrieved. We refer to the contributions of χ^2 expressed by the modalities of “year of publication” or “Journal” from which the abstracts were retrieved. Consequently, if a topic is discussed more during a given period, then the positive differences and the threshold for the significance of χ^2 will indicate an association between year and topic, or between topic and journal, given by the relationship between the most associated words.

In the light of these methodological considerations and based on the data obtained and selected by Scopus, we will ask the first research question.

RQ 1: Does a strand of study on “policy coherence” exist, and what are the main contents and temporal trends of the “policy coherence” topic within academic literature?

Exploring the vast set of 2037 publications containing the two different terms “policy” and “coherence,” we arrived at two main findings: firstly, that six main scientific clusters emerge from the literature, among which “policy coherence” (topic 4, in light blue in Figure 1) as a whole is one of the most prominent and is mainly related to 2030 Agenda and SDG issues. The policy innovation scientific cluster (topic 2, in grey) is related to environmental sustainability, smart cities, renewable energies, transport, and cohesion policies. All these innovation items are also goals and targets of the 2030 Agenda and deal more specifically with local policy and urban policies to foster the 2030 Agenda and achieve its SDGs.

Second, we observe that the other scientific clusters where the two distinct concepts emerged are as follows: Education studies (topic

5, in dark blue) related to cultural policy, school educational policies, and pedagogy; Foreign and security studies (topic 6, in pink) related to foreign and European policies and security policies; Health studies (topic 3, in green) related to method of patient treatment and clinical care policies; Economic and fiscal studies (topic 1, in red) related to fiscal reforms, financial crises, and IMF policies.

In the Cartesian planes (Figure 1), the same quadrant of the plane mirrors the same topics, and the most frequently used words appear bigger on the graph. We can observe that some clusters tend to be closer to each other toward the middle of the quadrant, while others tend to position themselves far from each other and the middle of the quadrant. Cluster 4 includes mainly words that refer to “policy coherence.”

The two clusters of “policy coherence” and “innovation” stay far from the others and are positioned at the bottom of the Cartesian axes. The distance between clusters is created by the “different” uses of the two concepts (“coherence” and “policy”) and by their temporal evolution in literature. “Policy coherence” is the only cluster characterized by an increasing trend in the period considered, especially after the 2015 approval of the United Nations Organization (UNO) Resolution (Agenda 2030), along with health studies that seem to increase at the end of the period considered (T.3 green cluster).

In between the four main domains (quadrants), we observe overlaps and interconnections between topics: this is the case, for example, in the literature that deals with coherence in school education and with education in the health domain, or the literature dealing with coherence in sustainable development and innovation in energy policies and urban transport studies. We can also observe interconnections in strands of literature that deal with EU coherence issues between member state fiscal policies and financial policies and EU coherence between economic policies and regime and the construction of social identity. The EU foreign and security studies are interconnected only with economic and fiscal studies.

The empirical evidence suggests that a specific field of study related to “policy coherence” emerges from the vast literature examined and the main topics found in the academic productions in the period 2000–2019; the PC cluster is the only one with a positive and increasing trend from 2015 to date. As mentioned above, the Agenda 2030 and the SDGs increased academic interest in PC about multilevel and international governance, transboundary issues, and across policies within the global sustainable development agenda and climate change governmental agendas (Tosun & Lang, 2017; Tosun et al. 2019)

In the next section, we will explore the specific contents of the “policy coherence” cluster in more depth and its correlations with other topics and sub-topics developed by policy scholars.

4 | THE RISE AND EVOLUTION OF “POLICY COHERENCE” IN SUSTAINABLE DEVELOPMENT

Considering the increasing trend observed in the “policy coherence” cluster in the last five years (2015–2019) of the literature (Figure 3),

we now investigate in which academic journals the issue of “policy coherence” prominently emerged and what are the sub-topics emerging from the “policy coherence” literature.

RQ 2: How has “policy coherence” been gaining momentum, and what are the most frequent topics associated with it?

As the topic “policy coherence” emerged automatically from the corpus processed, this article focuses on the journals in which articles were published to map the academic publications on “policy coherence.” It then focuses on the articles' abstracts to highlight their content, dimensions, and application of the concept.

The academic journals publishing articles on “policy coherence” were mapped to understand the scientific fields of publishing (Figure 4).

It should be noted that more than half of the top 15 academic journal publishing articles referring to “policy coherence” are consistently dedicated to climate change and environmental policy and governance. These latter areas represent the most frequent fields of publication in the last 20 years, during which the concept of “policy coherence” has gained prominence. Evidence confirms climate policy and environmental governance journals led the academic debate on policy coherence in the last years.

Snowballing the “policy coherence” set of articles, we now map the concept over time and highlight its quantitative and qualitative evolution to capture both established and emerging conceptual sub-topic trends, interrelations with other relevant concepts, and analytical frameworks.

To do so, we built a thematic sub-corpus of abstracts that contained the keyword “policy coherence” and we narrowed our analysis to the journals that *explicitly refer to policy coherence*. We automatically mapped (see Figure 5) the degree of salience (in terms of the most frequent words used) academic articles give to other topics (sub-topics) associated with “policy coherence”.

The eight main sub-topics that emerged from our analysis can be divided into two main groups:

1. *Governance coherence* (58.2% of academic production): coherence is associated with policymaking process properties, organization and administrative issues, and multilevel dimensions.
2. *Policy-specific coherence* (40.8% of academic production): coherence is associated with substantive policy objectives and instruments within a specific policy field or sector.

The following sub-topics belong to the first group (*governance coherence*): performance, accountability, learning, transparency and administration (sub-topic 3, in green); Development Assistance Committee (DAC), aid, development, transformation (sub-topic 2, in yellow); application, commission, contradiction, claim, multilevel, European commission, regulation (sub-topic 1, in red); control, administrative theory; complexity (sub-topic 7, in violet).

The following sub-topics belong to the second group (*policy-specific coherence*): climate change adaptation (sub-topic 6, in blue) including water resources, regional action, carbon emissions, and integration; sustainable development (sub-topic 5, in light-blue) related to “integration,”

2030 Agenda and SDGs, mitigation, and “interaction”; healthy and unhealthy food, including not communicable disease (NCDs), tobacco consumption, and nutrition issues (sub-topic 8, in purple).

The distinction between “policy-specific” and “governance” coherence recalls the distinction between substantial and procedural coherence, where the latter focuses on institutional capacity in complex regimes and governance architecture, and the former focuses on political interest and governance adjustments (Howlett & Rayner, 2007; Scobie, 2016; Urwin & Jordan 2008).

How do the academic articles and related topics position themselves to each other? Moreover, which are the most interconnected academic areas of interest? The Cartesian axes in Figure 6 depict a map of the “policy coherence” clusters emerging from scientific production and allow us to distinguish the closest ones and the most distant ones.

Figure 6 shows that four clusters of scientific interest are prominent in the scientific production on “policy coherence”: Global and European governance, EU development agenda and poverty, climate change and sustainable development agenda, food, and health policies. This last cluster rarely connects with SDGs and the 2030 Agenda, and therefore it is more distant from the others, particularly from the climate and sustainable development cluster. The governance, development, climate clusters of scientific production tend to converge much more and are much more interconnected.

In response to our second RQ, the evidence shows that “policy coherence” has been gaining momentum as an area of interest along with some specific policy issues: climate change, renewable energy, and SDGs, associated with integration and interaction among different policy sectors, and most of all with the issue/problem of governance coherence, characterized by such issues as performance, accountability, learning, transparency, administration, contradiction, claim, multilevel, control, and complexity.

5 | THE PROCESS-ORIENTED PERSPECTIVE OF POLICY COHERENCE AND ITS CONTEXT-DEPENDENT NATURE

The evidence obtained from the analysis of the literature illustrated above and the variety of analytical perspectives that have addressed the issue of PC contribute to outline the processual and configurative perspective of PC in complex contexts and cross-sectoral policy domains (Huttunen et al., 2014; Nilsson et al., 2012). The inherent processual nature of PC involves considering goals formulation, choice of instruments, implementation, and other related signals—especially intended outcomes—of the policy process, going further than other similar concepts (integration, coordination, and design) and potentially including them (Biesbroek & Candel, 2019; Huttunen et al., 2014; Nilsson & Weitz, 2019). Far from proposing a holistic and rationalistic approach, PC literature has been suggesting that there are many ways to take stock of policy coherence within the complexities of the policymaking.

This section aims to grasp better the process-oriented perspective and the contextual nature of the PC framework, namely, how PC



Journal	Topic Nr. 4 – policy coherence (distribution % of articles x journal)
<i>Climate Policy</i>	40,73
<i>Sustainable Development</i>	29,41
<i>IDS Bulletin</i>	23,78
<i>Environmental Policy and Governance</i>	18,87
<i>Sustainability Science</i>	17,82
<i>Food Policy</i>	17,82
<i>Development in Practice</i>	17,82
<i>Globalization and Health</i>	17,46
<i>Global Environmental Change</i>	17,46
<i>Marine Policy</i>	13,31
<i>International Environmental Agreements: Politics, Law, and Economics</i>	13,31
<i>Health Policy and Planning</i>	13,31
<i>Global Public Health</i>	11,91
<i>Regional Environmental Change</i>	11,91
<i>Science and Policy</i>	11,87
<i>Food and Nutrition Bulletin</i>	11,87
<i>Oxford Review of Economic Policy</i>	11,87
<i>Frontiers in Environmental Science</i>	11,87
<i>Bulletin of the World Health Organization</i>	11,87
<i>International Journal of Disaster Risk Science</i>	11,87
<i>Mitigation and Adaptation Strategies for Global Change</i>	11,87
<i>European Journal of Development Research</i>	10,31

FIGURE 4 Distribution of academic publications on “policy coherence” per journal

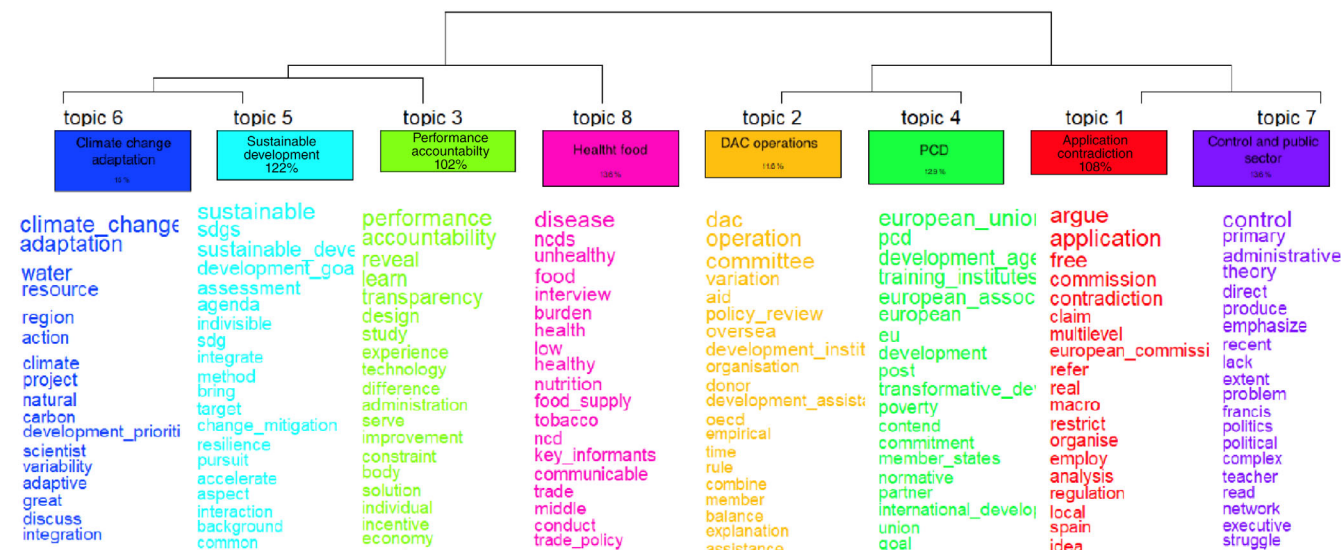


FIGURE 5 Subtopics related to “policy coherence” in the academic literature (2000–2019) [Color figure can be viewed at wileyonlinelibrary.com]

literature connects “policy coherence” to other dimensions and constitutive elements of the policy process.

The present section is devoted to answering our third RQ:

RQ. 3 Does PC literature contribute to addressing the increasing complexity of the policy-making?

For this purpose, first we selected a short list of relevant keywords representing different stages of the policymaking to investigate which are the most frequently interrelated with PC, then we reflect on other dimensions of PC that reveal its context-dependent nature. Figure 7 lists the frequency of correlation between “policy coherence”

and the following stages of the policy process—“agenda-setting,” “policy formulation,” “decision-making,” “implementation,” and “evaluation”—and gives us a measure of the attention scholars give to PC throughout the policymaking. We are aware of the limits of this analysis since it was conducted only on the titles and articles’ abstracts. Nevertheless, our aim is to trace which stages of the policy process the PC literature focuses on most, and to what extent PC studies consider the processual dimension of the PC.

We found an intense intertwining between “policy coherence,” and “implementation,” as noted in Figure 7; the intertwining with



et al., 2012; Picciotto, 2005). Policy outcomes and impact evaluation have only recently become relevant topics in empirical studies embracing operational approaches to PC devoted to the sustainable goals of the 2030 Agenda. In those studies, monitoring and reporting are essential components of the implementation process, and “impact assessment and evaluation are considered as the closing stage of the policy cycle” (Koff et al., 2020, p. 6; Nilsson & Weitz, 2019; Sandstrom et al., 2019; Weitz, et al., 2017; Zeigermann & Böcher, 2020).

Scholars' attention to evaluation and outcomes sporadically used to draw attention to the intertwining between PC and policy effectiveness and the ability of policymakers and public officials to overcome the “silo” approach and solve increasingly complex problems. Complexity is related not just to the numbers of policy sectors and layers of administration involved, but also to the increasing variety of policy beneficiaries and service providers public officials need to consider in pursuing coherent decisions.

Evidence illustrated above (Figure 7) confirms the processual and context-dependent perspective of PC in complex and cross-sectoral policy domains (Huttunen et al., 2014; Nilsson et al., 2012), such as environmental policies (Howlett & Rayner, 2007; Sandstrom et al., 2019), climate governance (Scobie, 2016), environmental governance and poverty reduction (Jones, 2002), climate adaptation policies, sustainable transition (Huttunen et al., 2014), energy policies (Selianko & Lenschow, 2015). Some theoretical contributions (Nilsson et al., 2012; Nilsson & Weitz, 2019), highlight that policy coherence is a complex concept that needs to be contextualized and unpacked into the sequence and types of actors' interactions at the different stages of policymaking across sectors and levels of governance. Recently, scholars also warn about a technocratic “presumption” of PC attainability, and suggest attention should shift considering the political context, that is, priorities selection, negotiation between conflictual interests, and assessment of unavoidable trade-offs (Brand et al., 2021).

Answering the research question, the PC literature contributes both to addressing the growing complexity and stressing the context-related nature of policymaking. Also including the great variety of actors' interactions in across-sectoral political domains along the policy cycle (Koff et al., 2020). Furthermore, as it emphasizes the adequate consistency and compatibility of goals, instruments, and implementation, PC literature raises the question of the effectiveness of cross-sectoral policies and the feasibility of transboundary governance in complex policy domains.

6 | CONCLUDING REMARKS: THE CHALLENGES FOR FUTURE RESEARCH

It is a matter of fact that in the academic literature, PC has been gaining momentum, particularly in the last decade. It occurred, on one side, following the adoption by various government levels of the environmental sustainability and sustainable development agenda; on the other side, because of the need of governments to review strategies and methods to strengthen the multilevel, intersectoral coherence of policies in pursuing the 17 Goals to Sustainability (SDG, 2015) and achieving their targets more effectively.

It is worth dwelling on evidence emerging from our analysis and reflecting on the added value of PC literature. This article presents a novel analysis of the academic production to provide systematic evidence of the rise of a “policy coherence” strand of literature in the recent twenty years that still seems fragmented in the lack of a conceptual consolidation. Using RDA and automatic and semi-automatic content analysis, we highlighted some characteristics of the academic articles published between 2000 and 2019. First, the topic of “policy coherence” emerges in a vast academic production that cuts across four different research areas: development, sustainable development, climate change and urban innovation policies, foreign policy in the EU, health, and education studies. Policy coherence has gained momentum in the literature and emerges as a specific topic within a more expansive academic production involving different disciplines, approaches, and subjects. Second, the academic production on “policy coherence” confirms that the topic has catalyzed interest in various fields of study interlinking policy process and cross-sectoral policy interactions of European global governance, international policies, sustainable development, and environmental and climate governance. Third, PC intertwines with other analytically relevant policy and governance topics to focus scientific and professional attention on the increasing complexity of policymaking, highlighting some limits. In most of the articles considered, PC emerged as a processual attribute, an aspect of context-related policy configuration, actor cooperation, and alignment of values and goals along the policy process. For this reason, one of the PC literature characteristic concerns the prevalence of case studies over comparative analysis.

Dwelling on the limits of PC literature, it should be noted that scholars' attention has been focused mainly on PC implementation. In contrast, the attention devoted to the effective alignment between goals, instrument, and policy outcomes or impact evaluation remains still rare.

Furthermore, even if global sustainable agendas and Millennium goals have triggered attention on PC and related operational aspects and concrete targets, in the PC literature two crucial aspects continue to be analytically underestimated: on one hand, the political dimension of the policy process, consisting of priorities selection, divergent interests' composition, policy tools adjustment; on the other, the evaluation effort that consists in monitoring and considering outcomes and impacts. Regarding political dimension, it is the studies on PCD that have more systematically raised the question of development and sustainable development “for whom”: the recognition of Northern bias, that is, donor's policy problem definition, goals and tools selection, is present in this sub-field of literature (Koff, 2021; Mbanda & Fourie, 2019; Siitonen, 2016; Thede, 2013).

Evidence suggests that PC literature is still far from elaborating an analytical framework to overcome the policy process' contextual nature and foster a comparative perspective on trans-sectoral governance. Likewise, analyses of consistency in policymaking concerning policy outcomes and long-term impact assessment are almost absent in the PC framework and PC research agenda (with few exceptions). Following some suggestions, PC literature should be more inspired by what the OECD and the EU already recommend to governments when addressing the coherence issue: to “devote more attention to

critical evaluations of the results” achieved (Keijzer, 2017, p. 178; Koff et al., 2020). We argue that more widespread analytical and empirical considerations of the outcomes, impacts, and policy beneficiaries' reactions could clarify actual mechanisms and causal links regarding crucial trans-boundary issues and cross-sectoral policies such as sustainable development, climate change governance, poverty reduction, and global health.

Within PC literature a “systemic perspective” strives to emerge, shedding new light on cross-sectoral policy processes by simultaneously looking at the nexus between goals, tool-mix and outcomes across various policy subsystems, phases of policy cycles, and governance arrangements (Howlett & Rayner, 2007; Righettini & Lizzi, 2019). Nevertheless, rather than being considered a policy attribute, policy coherence should be conceptualized and operationalized as a policy process attribute, a strategy and a mechanism to facilitate consistency and synergies. In this vein, coherence as a feature of horizontal governance might result from policymakers' priority selection, negotiation between interests, assessment of trade-offs and tool mixes whose alignments and compatibility are likely to affect policy outcomes. PC as a feature of the vertical and MLG might result from coordination modes in formulation or implementation phases. Moreover, PC intertwining with integration, and coordination issues, focusing mainly on outputs and implementation at different levels (Bocquillon, 2018; Huttunen et al., 2014; Kurze & Lenschow, 2018; Scobie, 2016; Urwin & Jordan, 2008), should deepen the analysis of policy coherence attainability.

As PC is a moving target for policymakers and scholars, paying more attention to interconnections between policy topics—such as environmental sustainability, food, health within the climate, and poverty agenda issues—could also contribute to developing future analytical knowledge at different policy stages.

Policy coherence, as either an academic topic or a relevant object in international governance, specifically requires a more detailed and comparative research agenda: there needs to be a greater focus on unpacking PC about either the different stages of the policy process or the different contexts in which common goals need to be pursued; more attention has to be paid to intermediate priorities, diverging interests and outcomes, impact assessment, and evaluation of the effectiveness of cross-sectoral policies. More significant efforts in these directions could improve and advance the PC theoretical framework and the policy makers' capacity to steer, legitimate, and align local agendas governance to sustainable development goals and environmental challenges.

In conclusion, we suggest that a future research agenda looking at the following paths: broaden the analytical focus to the entire policy cycle; continue to focus on the implementation stage, especially in the case of intersectoral complex policies and transboundary governance; do not underestimate the political dimension and trade-offs by scholars and policymakers; greatly enhance research on the evaluation stage and ex-post impact analysis on policy results, possibly in a comparative vein.

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ENDNOTES

- 1 FAO (2016), Strengthening coherence between agriculture and social protection to combat poverty, <http://www.fao.org/3/a-i5386e.pdf>. [amazonaws.com/public/discussions/contributions/ICN2_submission_1.pdf](https://www.amazonaws.com/public/discussions/contributions/ICN2_submission_1.pdf)
- 2 OECD (2016): The aim of the new framework on PC is: “to enable policy-makers – ministries, legislatures and offices of government leaders, development agencies and other key stakeholders – to screen policies, organisational structures as well as policy-making processes, and consider other contextual factors which can influence the achievement of sustainable development ...” <https://www.oecd-ilibrary.org/sites/9789264256996-6-en/index.html?itemId=/content/component/9789264256996-6-en> (accessed in July 2020).
- 3 The blog reporting the comments of the author (UNSSC) offer an example of the emphasis and commitment of the IOs for policy coherence in the 2030 Agenda implementation.
- 4 However, within the variety of policy areas there seems to be a prevalence of themes and issues related to sustainable development and the themes of the 2030 Agenda.
- 5 Scopus is a database of 250,000 articles from 5,000 publishers and 16,500 peer-reviewed academic journals from the science, medical and social fields. Scopus was preferred to WoS because it does not include grey literature and books.
- 6 European Commission (2001), European Governance: A white paper and the five principles of good governance, https://ec.europa.eu/commission/presscorner/detail/en/DOC_01_10
- 7 Abstracts were normalized replacing uppercase with lowercase letters, using lemmatization, and punctuation numbers and stop words were removed because they are not significant and frequently occur in the corpus. The lexicometric characteristics of the corpus show that it is composed of 14,377 word-types (different words) and 215,869 word-tokens (occurrences of word-type). Punctuation and numbers have been removed (the tokenization remove punctuations and as a results we obtained a list of tokens), as stop words (the, if, and...) have been removed because are not significant and are frequently occurring in the corpus. the lexicometric characteristics of the corpus show it is composed of 15840 word-type (different words) and 404375 word-tokens (occurrences of word-type).
- 8 Respectively, coordination is mentioned in 40 abstracts and integration in 34 abstracts.

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