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Research on Small and Medium-Sized Towns: Framing a New Field of Inquiry

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Abstract: In recent years, research and publication activity in the field of small and medium-sized cities (SMSCs) in an international context has been increasing. However, a survey of extant research remains missing. To bridge this gap, this paper presents a systematic and comprehensive review of the relevant literature revealing how various disciplines, from geography to economics, approach the topic from different perspectives, which can be related to various foci of sustainability. Empirical results show that the development and significance of SMSCs are influenced by spatial location and innovative activity, networking, and the intensity of cooperation with other cities. Additionally, transport infrastructure connections, control through network-related spatial planning approaches, and exceptional positioning of individual architectural buildings can play a decisive role. However, there is no singular understanding of SMSCs, with many different research perspectives distinguishable.

Keywords: small and medium-sized cities; disciplines; state of the art; frequency of citation; literature review; classification

1. Introduction: Overview on the Strands of Discussion in Urban Research

Cities are broadly represented in research from various scientific disciplines, especially fields such as urban geography, spatial planning, and urban systems research [1–3]. However, the focus has primarily been on large cities and metropolitan areas, with small and medium-sized cities (SMSCs) largely neglected [4].

Following REUBER (2020) [5], at least seven major strands of discussion and emerging fields in current urban research can be distinguished:

First, cities are viewed as globally interconnected entities [6] and thus as global city networks [7–9], especially with regard to the discussion of global cities and world cities. This is accompanied by the increasing urbanization process, which is also reflected in the network society [6]. Due to their position as outstanding economic, political and cultural anchor centers, they have a special significance in the hierarchical system of cities [7,8].

A second strand of discussion ties in with the debate of place identity [10] and sense of place [11,12] already conducted in sociology and place questions about the identity of urban sites (urban image/urban identity) at the center of research [13], for example, in relation to certain population groups [14]. More recently, work on urban-heritage research can be found here in particular [15,16], which places local specificities in the focus of epistemological interest [5,17].

Third, the subject of urban social geography continues to form a large body of work in the field or urban studies [18,19]. This includes studies that manifest themselves with questions of inequality and segregation [20] with regard to marginality; the relationship between illegality and legality in cities (sanctuary cities) [21]; housing market development; and, for example, social fractures in neighborhoods [22–24].

This is often accompanied by issues of, fourth, urban (participatory) planning. In addition to topics such as urban redevelopment and urban renewal, urban planning discourses/governance discourses and work on the participation of urban actors are particularly in the spotlight. Additionally, an independent field of research has been developing in recent years that deals with the significance of conventional and new urban infrastructures (infrastructure of supply and disposal, mobility, data connectivity, etc.) [25–28].

Fifth, the political geography of the urban stands out as a separate emerging field of urban research. This field is concerned with the critical examination of urban conditions with a special focus on debates on social theory, such as questions of securitization [29–31], surveillance [32], the right of the city [33], and urban governance.

Additionally, sixth, megacities/megacity regions and, in this context, the increasing globalization of the city constitute another direction in the field of urban studies. The regional focus here is particularly on China, and in terms of content, challenges and governance issues of this urban form are discussed [34,35].

Urban ecology research can be identified as the seventh strand of discussion [36,37]. Studies in this topic area are primarily concerned with sustainable planning, for example, in the sense of creating green and blue infrastructures, urban de-growth discourses, urban resilience, and strategies in the sense of climate change adaptation strategies.

In summary, the following can be stated: International urban systems research, especially, has prioritized changes in large cities and metropolises, considering their hierarchical positions in national and global urban systems and on the changing mutual relationships between cities [38] (see also emerging field of global cities and the megacity discussion). In contrast, SMSCs, which are considered to be neither agglomerations nor metropolitan areas nor located in remote rural areas, have been largely ignored in research [39], although a considerable proportion of the European population lives in such cities [40–42]. Only in recent years has publication activity and research on SMSCs begun to accelerate, a phenomenon observable in both the German and Anglo-Saxon literature but has not yet emerged as an individual research strand [4,43–45].

After outlining the various strands of discussion in urban research, we move on to a brief sketch of the theoretical background on SMSC research before discussing the methodological approach of the paper's analysis. Then, we present the results of the systematic review from various academic sources and closely consider 20 articles drawn from English language discourse on SMSCs. We conclude with a discussion of further research avenues for interdisciplinary research on SMSCs, emphasizing the role of geography and spatial planning.

2. Theoretical Background: Are Small and Medium-Sized Cities Receiving Too Little Attention?

To date, SMSCs have played only a marginal role in international urban geography research [44,46,47] and have also been largely ignored in political and social perceptions [48]. This lag in research activity and related publication activity is particularly striking when comparing research activity in different urban categories and strands of urban research, respectively. Figure 1 depicts an overview of the cumulative number of Google Scholar-listed publications in the period from 2000 to 2019 for the search terms *"global cities"* OR *"world cities"*, *"megacities"* OR *"mega cities"*, *"metropolitan regions"* and *"small and medium-sized cities"* OR *"small and medium-sized towns"*. At first glance, it can be seen here not only that research activity in the area of SMSCs lags far behind that of other city categories but also that the increase in publications is far less dynamic. The cumulative number of publications for the period from 2000 to 2019 was 7.2 times higher for global cities or world cities, 6.7 times higher for mega city, and 3.7 times higher for metropolitan regions than for SMSCs at the end of 2019 (see Figure 1). This quantitative analysis shows that SMSCs have, to date, played a subordinate role in research, or as GAREIS/MILBERT (2021) [46] argue, the existing literature in this research area has received too little reception to date.
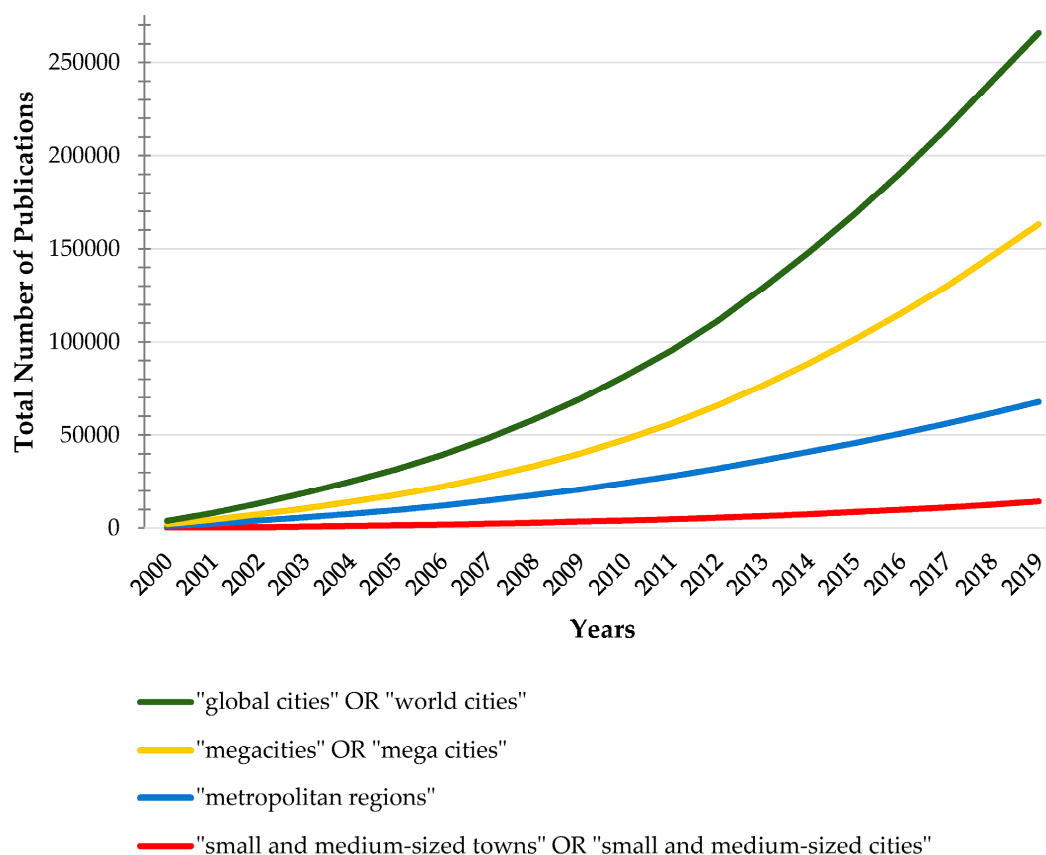
Figure 1. Overview of the total number of Google Scholar-listed publications concerning "global cities" OR "world cities", "megacities" OR "mega cities", "metropolitan regions" and "small and medium-sized cities" OR "small and medium-sized towns" for the period 2000–2019 by year (start of calculation: 2000).

This low level of publication activity in the field of SMSC research is particularly striking when considering its significance for the settlement structure and the polycentric system of cities. We would like to demonstrate this in more detail using the example of Germany. According to the general classification of the Bundesinstitut für Bau-, Stadt- und Raumforschung (BBSR) [49], small towns in Germany are defined as municipalities with between 5000 and under 20,000 inhabitants or with at least a basic central function; medium-sized cities are defined as municipalities with between 20,000 and under 50,000 inhabitants. According to data from the INKAR Database (indicators and maps of spatial and urban development for Germany, state of 2017) [50], these municipalities occupy 48.1% of the total land area in Germany and are home to over 43 million people, more than half of the total population. Moreover, disregarding regional differences, a positive population development of 1.1 percent on average can be observed in the category of SMSCs in the period from 2012 to 2017 (see also Table 1). These figures illustrate the significance of this type of city in terms of settlement structure and, in this context, also in social–spatial and political terms and once again cast a different light on the insufficient attention paid to this topic in research.

Table 1. Importance of small and medium-sized cities (SMSCs) for the settlement structure in Germany.

City Type	Population (in %)	Area (in %)	Average Population Development from 2012 to 2017 (in %)
SMSCs	52.4	48.1	+1.1
Big Cities	31.8	3.9	+3.99
Rural Communities	15.9	48.0	−0.35
City Types in total	100.0	100.0	+ 0.4

Own calculations based on data from the INKAR database of the BBSR [50].

Nevertheless, in the following, we would like to provide a brief outline of the state of the art of SMSC research activities: Isolated studies have analyzed the shrinkage, migration, and peripheralization of SMSCs [51,52], while other research has identified demographic re-urbanization processes in favor of SMSCs [42,53], explained as "spillover effects" caused by high rents in large cities [54]. Furthermore, isolated research studies have considered sociospatial structure, residential attractiveness, supply density, and citizen participation procedures, as well as issues of political self-administration [53] and endogenous potential for surrounding areas.Additionally, mobility concepts applicable to sparsely populated rural areas, which are often characterized by SMSCs, have been analyzed, representing courses of action for policy makers.

Elsewhere, there is a gap in research on the economic significance and development of SMSCs, especially their innovative power and municipal networking [55–57], with systematic studies in the economic field having been primarily focused on large cities and metropolitan areas, often considered to be the most important centers of (knowledge-based) economic activity [55,58–60]. However, to date, individual studies have been unable to establish a significant correlation between city size and economic growth [61,62], with only a few studies considering how SMSCs also profit from positive growth dynamics in the regional urbanization sense [63,64]. Additionally, there has been only marginal investigation into how SMSCs can develop as singular larger centers in rural areas outside metropolitan areas, anchoring economic activity [65,66]. Individual studies, on the other hand, already deal with the endowment of smaller cities with different infrastructures and their resulting significance for the surrounding areas [67]. In line with this, more recent studies dwell on the subject of life satisfaction of residents in small towns in central locations, which is equally associated with the creation of equivalent living conditions through basic existence functions [47].

Systematic studies of SMSCs in individual European countries continue to represent a research gap, having mostly been conducted within the framework of the EU's ESPON TOWN project, which ran from 2012 to 2014 [68–73], an interdisciplinary, application-oriented project that aimed to investigate the role of SMSCs, their development potential, and the necessary cooperative management arrangements between cities at the European level. Furthermore, there have recently been the first attempts to classify small towns systematically with respect to their functional equipment, for example, for Germany [46], or with respect to their economic equipment for Switzerland [57].

Finally, no comprehensive overview has surveyed the current state of research on SMSCs internationally or across disciplines. Against this background, this paper provides a synopsis of the empirical and theoretical research in the field over the past ten years, with a focus on elaborating the research foci of individual publications and categorizing them at a superordinate level. This involved investigating the role of SMSCs in current research in the context of various spatial challenges and the topics yet to be covered, especially those concerning spatial development. To this end, the 20 most frequently cited publications for the period 2009–2019 are analyzed and critically reviewed.

3. Materials and Methods: Systematic and Narrative Review

To provide a comprehensive overview of SMSC research, a systematic literature review was chosen, supplemented by narrative approaches to the review of the 20 most frequently cited articles in the field [74]. According to TRANFIELD et al. (2003) [75] (p. 209), "systematic reviews [...] differ from traditional narrative reviews by adopting a replicable, scientific and transparent process, in other words a detailed technology, that aims to minimize bias through exhaustive literature searches of published and unpublished studies and by providing an audit trail of the review's decisions, procedures and conclusions". Based on this, the aim of this literature review is to combine both systematic and narrative analyses. In order to map the research field not only quantitatively in terms of citation frequency, hit probability, and classifications, the narrative analysis takes a detailed look at the twenty most cited articles and also examines them more closely in terms of content. This is followed by the classification of the publications into different research categories and the close examination of (a) the research field itself, (b) the disciplines dealing with the research field, and (c) the research foci.

For the systematic literature review, various steps were taken to approximate the study's final results. For a primary overview, the following generally valid keywords were identified as providing a large sample of articles on the subject in the English language: *"small and medium-sized cities"*, *"small and medium-sized towns"*, *"small cities"*, *"small towns"*, *"medium cities"*, *"medium towns"*, *"medium-sized cities"*, and *"medium-sized towns"*. This approach revealed that—especially in the English-speaking world—single terms, such as *"small cities/small towns"* and *"medium cities/medium towns"*, located a larger number of individual case studies for individual SMSCs. Given this paper's focus on comprehensively surveying the current international scientific discourse on SMSCs, rather than on individual case studies, the search terms were subsequently limited to phrases *"small and medium-sized cities"* OR *"small and medium-sized towns"*. The use of truncations was also avoided in order to further reduce possible erroneous results. Furthermore, the search terms were restricted to the titles of the publications, based on the assumption that groundbreaking research in a given field features the relevant keywords in the title.

Additionally, given the aim of reflecting the current state of research on SMSCs, the selection of articles for the qualitative analysis in Google Scholar had to be limited to a certain period of time. To determine this period of time, the frequency of all hits for the search terms *"small and medium-sized cities"* OR *"small and medium-sized towns"* in the title search for the period 2000–2019 in Google Scholar was examined (see Figure 2). From 2009, a greater increase in publication activity can be observed.

The topicality of publications from the last ten years and the rapidly increasing number of English-language publications were decisive factors in limiting the period of systematic literature searches to the period 2009–2019. Along with limiting searches to titles, this reduced search results to a manageable number of publications, although the international focus meant that a wide range of different topics and questions could be expected. Next, the OpenSource tool Publish and Perish (https://harzing.com accessed on 28 December 2020) was used to select the sample, enabling a list of search results to be created from Google Scholar's literature database displaying the period of time and title of each publication, along with citation frequency, annual citations, year of publication, publisher, and abstracts.
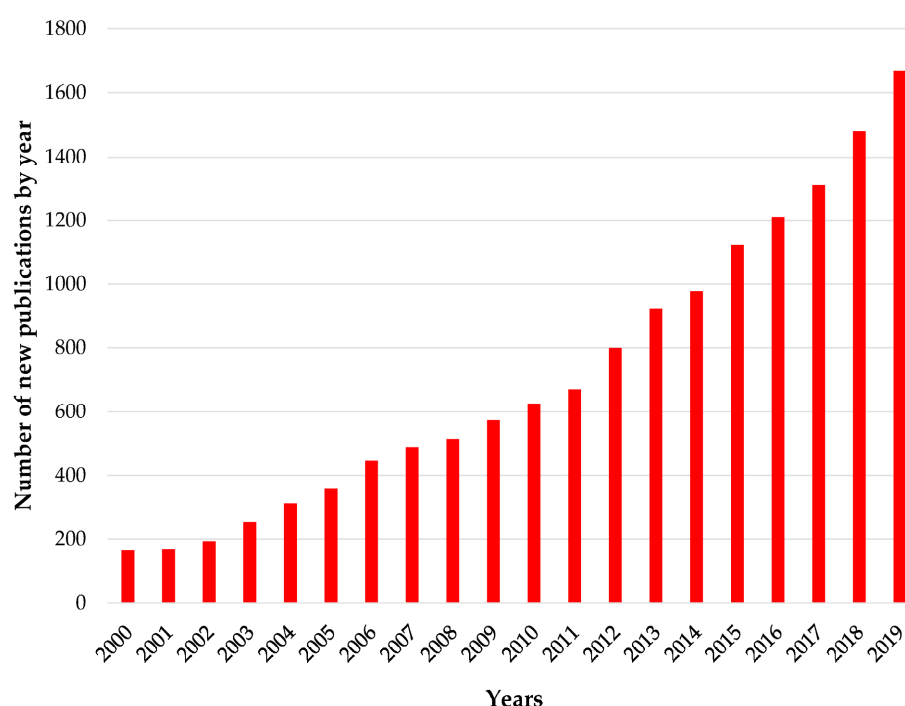
Figure 2. Overview of new Google Scholar-listed publications concerning "*small and medium-sized cities*" OR "*small and medium-sized towns*" for the period 2000–2019 by year.

Meanwhile, citation frequency was used to select articles for the narrative literature analysis. Although bibliometric methods for measuring research performance quality—for example, indices such as the Hirsch Index—are controversial [76,77], they are still used in various disciplines to measure reputation [78,79]. Accordingly, citations can be regarded as indicators of the quality of a scientific publication, or at least as an indicator of the reception of a publication [79]. Further criticisms of citation frequency as a selection criterion are that the (so-called) negative citations can be used to uncover errors or inaccuracies in publications, and publications can be cited merely to highlight counter arguments attributing incorrect value to the importance of individual publications [79]. This problem was circumvented by randomly verifying the citations of individual articles.

In individual disciplines, such as human geography, studies on citation networks within disciplines have already been conducted to illustrate the social networks between professors, as well as their within-discipline significance and citation behavior [80], that is, citations have been used as a selection criterion in other studies, an approach recognized as a tool for measuring scientific output, although it is criticized for not necessarily reflecting scientific quality [77].

The approach could also be criticized because more recent publications might have not yet had the time or exposure to reach a sufficiently high number of citations. However, although the citation frequency criterion was chosen to reflect the current discourse, within which recently published scientific papers must first gain a reputation, the literary overview indicates that there is a considerable number of more recent articles among the 20 most cited publications (two articles from 2018, five from 2017, three from 2016, and two from 2015; see also Table 2), negating this potential criticism of the methodology.

However, the criterion of selecting publication contributions according to the impact factor of the individual journals was not taken into account, as this would have left other publication types, such as books, dissertations, and reports, unconsidered. On the other hand, studies show that groundbreaking publications were often published in journals with a low impact factor [81]. Thus, although the citations of individual articles have an impact on the reputation of the journal, publishing in top-ranked journals does not automatically result in high citation frequencies [82].

Table 2. The 20 most cited articles for the search "small and medium-sized cities" OR "small and medium-sized towns" for the period 2009–2019.

#	Citations	Year	Author	Title	Publication Type/Journal	Research Field
Search Items (Only in Title): "Small and Medium-Sized Cities" OR "Small and Medium-Sized Towns" (445 hits)						
1	52	2014	Fahmi et al.	Extended urbanization in small and medium-sized cities: The case of Cirebon, Indonesia	*Habitat International*	Human Settlement Studies
2	48	2014	Servillo et al.	TOWN—Small and medium sized towns in their functional territorial context	Final Report TOWN Project	Urban Geography
3	45	2011	Van Leeuwen/Rietveld	Spatial consumer behavior in small and medium-sized towns	*Regional Studies*	Regional Studies
4	43	2018	Shackleton et al.	How important is green infrastructure in small and medium-sized towns? Lessons from South Africa	*Landscape and Urban Planning*	Landscape Planning and Design, Sustainability Studies
5	43	2017	Servillo et al.	Small and medium-sized towns in Europe: conceptual, methodology and policy issues	*Tijdschrift voor economische en sociale geografie*	Economic and Social Geography
6	43	2016	Hoppe et al.	Presenting a framework to analyze local climate policy and action in small and medium-sized cities	*Sustainability*	Landscape Planning and Design, Sustainability Studies
7	34	2010	Capriotti	Museums' communication in small and medium-sized cities	*Corporate Communications: An International Journal*	Communication Studies
8	31	2016	Cox/Longlands	City systems: The role of small and medium-sized towns in growing the northern powerhouse	IPRR North Report	Political Studies
9	29	2017	Hamdouch et al.	The socioeconomic profiles of small and medium-sized towns: insights from European case studies	*Tijdschrift voor economische en sociale geografie*	Economic and Social Geography
10	29	2015	Lazzeroni/Piccaluga	Beyond "town and gown": the role of the university in small and medium-sized cities	*Industry & Higher Education*	Corporate, Industrial and University Research
11	28	2013	Selada et al.	Creative-based strategies in small and medium-sized cities: Key dimensions of analysis	*Quaestiones Geographicae*	Geography
12	19	2011	Rivas	From creative industries to the creative place. Refreshing the local development agenda in small and medium-sized towns	Industry-Report	Economic and Social Geography
13	18	2017	Meili/Mayer	Small and medium-sized towns in Switzerland: Economic heterogeneity, socioeconomic performance and linkages	*Erdkunde*	Geography
14	17	2015	Andersson	Geographies of place branding. Researching through small and medium-sized cities	Dissertation: Stockholm University	Cultural and Social Geography
15	17	2010	Vlachou et al.	Planning and deploying transit signal priority in small and medium-sized cities: Burlington, Vermont, case study	*Journal of Public Transportation*	Transport Research
16	15	2016	Hamdouch et al.	Creative approaches to planning and local development. Insights from small and medium-sized towns in Europe	Anthology	Spatial Planning and Development
17	13	2017	Sýkora/Mulícek	Territorial arrangements of small and medium-sized towns from a functional spatial perspective	*Tijdschrift voor econmische en sociale geografie*	Economic and Social Geography
18	12	2017	Russo et al.	Identifying and classifying small and medium-sized towns in Europe	*Tijdschrift voor econmische en sociale geografie*	Economic and Social Geography
19	11	2018	Batunova/Gunko	Urban shrinkage: An unspoken challenge of spatial planning in Russian small and medium-sized cities	*European Planning Studies*	Spatial Planning and Development
20	11	2019	Rego/Caleiro	On the spatial diffusion of knowledge by universities located in small and medium sized towns	Munich Personal RePEc Archive	Corporate, Industrial and University Research

4. Discussion of the Narrative Analysis

This chapter presents the principal results of the literature analysis, the intensive study of the 20 most cited publications in the field of international SMSC research for the period 2009–2019. Following a detailed description of the selected sample (3.1), the results are subdivided into the following categories: research subject, definition, and empirical data (3.2).

4.1. Sample Description for the Narrative Literature Analysis

Based on the evaluation criteria, Google Scholar found mostly empirically proven studies derived from different disciplines and research areas. Of the 20 most cited publications, there were 14 articles published in 11 different journals—each representing a different research field based on the scientific context—and six publications that appeared in other contexts, such an industry reports, anthologies, and dissertations (see Table 2). These studies have been published in publication types or journals of general geography, economic and social geography, regional studies, transport research, spatial and landscape planning, communications, political science, business, and education. Additionally, the authors are experts in fields of research such as spatial planning, architecture, and environmental sciences, sometimes taking different approaches to interdisciplinary cooperation in addressing concerns pertaining to SMSCs (see Table 3). This indicates that, although SMSCs belong to a research field originally located in urban (system) research, the topic resonated broadly in neighboring disciplines.

4.2. Results of the Narrative Literature Analysis

To provide a comprehensive overview of international research activity on SMSCs, the following chapter presents a narrative analysis of the most frequently cited publications. The subchapters represent research objectives and case studies and areas of investigation, with the latter considering different definitions of the research field and ways of applying the empirical research (see Table 3).

4.2.1. Research Focus and Object of Research

Based on the research field of each individual publication, research objects were roughly divided into four main categories: (a) questions concerning the economic development of SMSCs (general economic development, development of the creative and cultural economy) and their effects on spatial planning hierarchies; (b) studies addressing the sociodemographic development of SMSCs; (c) studies on topics regarding climate-friendly urban development or sustainability in terms of urban design and better utilization of public transport; and (d) policy, governance, and definitions of SMSCs across different national contexts.

Economic issues. In addition to the clustering of SMSCs in Switzerland based on economic and socioeconomic characteristics [57] as a macroscale study on the formation of spatial patterns, the articles considered focus on analyzing the connection between SMSCs in the regional environment [57]. Studies of supraregional scope also consider positive economic developments of small cities in general [40], while at the regional level, the importance of SMSCs in terms of offering retail services to local households is analyzed [83]. Furthermore, concrete processes of economic development are discussed on the basis of meso- or microscale analyses, including, for example, the extent to which cultural economic institutions, such as museums, pursue information and communication policies [84]. Elsewhere, studies investigate how the economic development of small towns within different spatial categories (agglomeration areas, metropolitan areas, peripheral areas) can be examined and controlled by local policy [40]. Other focuses are how creative economics importantly drive the revitalization and development of European SMSCs [85] and how creative forms of economy can be made usable as a branch of economics for medium-sized municipalities [86]. In her dissertation, ANDERSSON (2015) [87] approaches SMSCs through the significance of place branding in these size classes. From a geographical perspective,

she uses six SMSCs in Sweden as examples to examines the interface between economy, architecture, and sustainability to understand what opportunities exist or can be created through, for example, the establishment of exceptional architectural structures, known as the "Bilbao effect". Another of her case studies considers "green city" marketing, which can also contribute to economic tourism and further exploit opportunities for SMSCs. Additionally, two studies highlighted the importance of attracting higher education institutions to economically and spatially develop SMSCs and their surrounding areas [88,89].

Across these different research subjects, several similar findings can be summarized. Beyond depending on being located close to and thus affiliated with metropolitan areas, agglomeration areas, or rural-peripheral areas [70], there exist other decisive factors in the economic development of SMSCs and their surrounding regions. For example, Meili/Mayer (2017) [57] note that small towns in Switzerland are undergoing a wide variety of economic development processes and may specialize in different economic activities despite being located in the same region, that is, in addition to proximity to large cities and the resulting agglomeration effects, networking and intensity of cooperation with other cities critically position SMSCs in the urban system [57]. However, transport infrastructure connections, path dependency, and, thus, the historicity of the resident economic enterprises continue to be identified as essential for the settlement of new economic enterprises [90]. Moreover, concrete drivers of economic prosperity for SMSCs can include higher education institutions, such as colleges and universities, which can also attract start-ups, innovation incubators, and spin-offs in medium-sized cities [70,71]. Nonetheless, as ANDERSSON (2015) [87] recognizes, attractions completely different from those pertaining to this functional–spatial–economic discussion can positively impact the economic development of communities of this size.

Sociodemographic aspects. Few of the articles examined consider sociodemographic aspects. The article by FAHMI et al. (2014) [91] analyzes SMSC population growth in megaregions in developing countries, explaining the phenomenon in terms of mainly economically influenced external factors and internal drivers. Further questions mainly concern processes of change, which, although indirectly affecting demographic development, can be induced and controlled primarily through creative approaches to local planning [69]. In contrast, only BATUNOVA/GUNKO (2018) [92] consider concrete population development, using SMSCs in Russia to examine the extent to which planning documents and associated policy decisions respond to shrinkage and peripheralization processes.

Issues of sustainable, climate-friendly urban development, and design. Studies by SHACKLETON et al. (2018) [93] and HOPPE et al. (2016) [94], as well as, in a broader sense, by VLACHOU et al. (2010) [95], can be classified as focusing on questions of sustainable, climate-friendly urban development. In the context of climate change, HOPPE et al. (2016) [94] explain the extent to which different city size classes differ and the role of SMSCs in climate change policy. Given specific local characteristics and the territorial location of SMSCs, local programs that are tailored and managed by the regional governments of respective cities, cooperation in intermunicipal networks, and the highlighted ability of SMSCs to mobilize the population are critical for climate-effective action. Meanwhile, SHACKLETON et al. (2018) [93] show how green infrastructures, such as parks, public gardens, and urban trees, not only contribute to climate protection but can also positively influence the aesthetic of the cityscape and quality of life in SMSCs. Taking a broader view, VLACHOU et al. (2010) [95] address the sustainable orientation of SMSCs by investigating simulation models for better scheduling and, thus, utilization of public transport, especially for such city sizes.

However, although these studies within the field of climatic fair urban development and organization are highly regarded, they are only superficially concerned with SMSCs as a city type, breaking down theories and concepts from political, environmental, and traffic planning and applying them to such municipalities. Differences and similarities between

SMSCs and large cities are largely ignored, despite likely being conducive to the significance of these studies.

Policy, Governance, and SMSC Definitions. The selected publications on SMSCs are also motivated by questions of policy and governance and questions of identifying and defining these city types. It is apparent that SMSCs are particularly involved in multilevel and territorial governance structures, enabling, for example, access to different resources. Accordingly, they are embedded in territorial (planning) strategies, in turn requiring both territorial capital (linking local knowledge with the environment) and local capital to mobilize partnerships, especially through the public sector [96]. Additionally, SMSCs seize their opportunity in these European, national, and regional governance structures, publicizing their own situation [70]. However, this only succeeds if SMSCs are recognized as important at regional and national levels and SMSCs open up new development opportunities. Additionally, "appropriate multi-level and territorial governance formations [have to] support these initiatives" [70] (p. 375).

The ESPON-TOWN project has been specifically working at various levels to create a methodology for identifying SMSCs across national borders and to describe different styles of (multilevel or territorial) governance, including considerations of policy implications influencing these SMSCs. All three publications selected for the literature review are equally interested in overcoming the territorial diversity of urban spatial patterns and hierarchies and creating new approaches to networking and territorial dynamics. A basic prerequisite for this should be selection criteria according to urbanization classification at the EU level, that is, defining SMSCs by population size (5000–50,000 residents). Depending on the subproject, different approaches to defining SMSCs and, consequently, different methodological approaches were chosen. To compare different subprojects, RUSSO et al. (2017) [97] derive a generally valid definition of European SMSCs from different interpolations and analyses, using a GIS analysis, which could distinguish high-density urban clusters from urban clusters and rural regions. Furthermore, territorial situations and relationships between cities were included in the analysis.

In a second subproject, morphological, administrative, and functional factors [96] were analyzed to enable statements about the diversity of national and regional urbanization processes and to characterized SMSCs. In contrast, another subproject focused on the territorial and functional embedding of cities in polycentric or monocentric regions [72] with the main objective of applying a functional, specialized approach to defining SMSCs, enabling the determination of whether cities act as urban centers in microregional regions, cities embedded in a network, or autonomous cities [72].
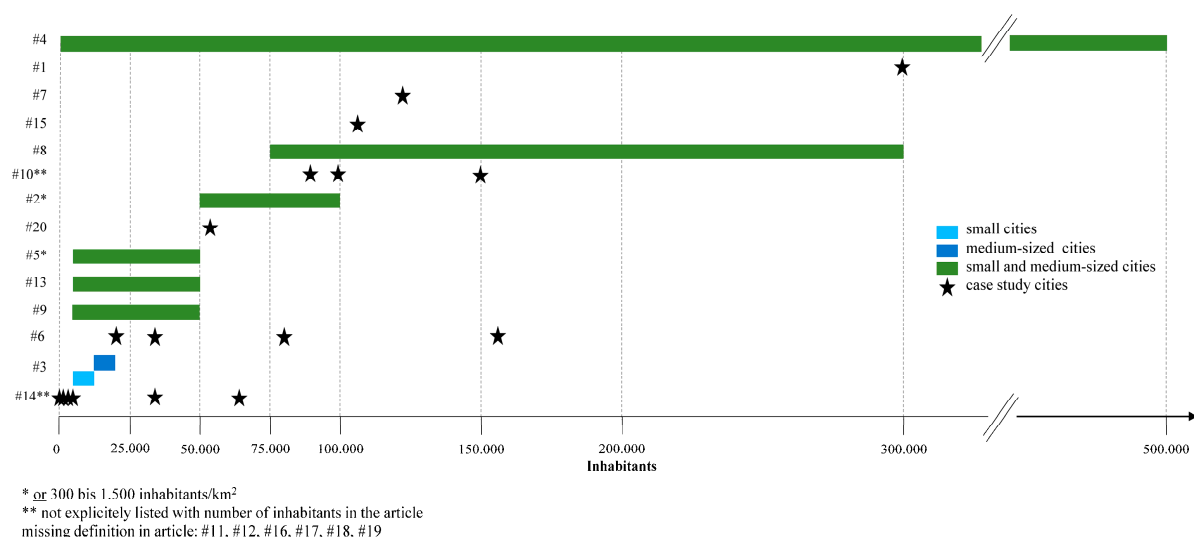
The variability of the different approaches to classifying SMSCs highlights the difficulty of defining SMSCs in a generally valid way. Critically, no verifiable comparison of the individual studies is possible, despite all of them considering European SMSCs.

4.2.2. Case Studies and Definitions of Small and Medium-Sized Cities

To decisively compare different studies, it is necessary to take a differentiated approach to the case studies and associated definitions of SMSCs. The 20 publications examined, in detail, feature SMSCs in different countries and spatial types as objects of investigations. In addition to overview studies of SMSCs in Europe [40,72,83,96,97], papers were observed considering SMSCs in Indonesia [91]; South Africa [93]; Denmark and the Netherlands [94]; Spain [84]; Great Britain, the Netherlands, and Italy [88]; the USA [95]; Portugal [89]; and Russia [92]. The anthology edited by HAMDOUCH et al. (2017) [69] features a variety of contributions, including case studies from France, Norway, Canada, Greece, Greenland, Italy, Poland, and Sweden.

The diversity of case study regions begets a wide variety of definitions of SMSCs, mostly derived from population size, although also considering spatial reference, that is, these 20 papers considered municipalities between 5000 [40,57,83,96] and 500,000 inhabitants as SMSCs [93] (see Figure 3). Studies with a particular focus on defining SMCs across national borders—for example, for the European region—argue that other economic,

administrative–social, and functional—spatial factors should also be included (see the previous subsection regarding policy, governance, and definition of SMSCs). For example, FAHMI et al. (2014) [91] argue that, in addition to size, which is usually defined by the number of inhabitants, an SMSC's position in the city hierarchy and its associations with other cities can also influence the supraregional significance of individual municipalities. Furthermore, a city's relative functions within a certain region, expressed by the extent to which a municipality anchors its surrounding areas, also impacts city type classification [98]. For example, SÝKORA/MULÍCEK (2017) [72] expanded the term to include commuter flow between different municipalities. The final report from the TOWN project similarly argues that while a minimum inhabitant concentration (between 300 and 1500 inhabitants/km^2 or between 50,000 and 100,000 inhabitants in total) is a definitional (morphological) criterion for its study, the existence of an administrative–territorial area containing one or more urban settlements and a certain concentration of jobs, service and other functions— enabling an SMSC to anchor its surrounding region in an urban–functional sense—is a further definitional (administrative) criterion [96]. Meanwhile, RUSSO et al. (2017) [97] describe the approach of a functional–spatial analysis of urban systems in their study, including territorial location relationship and spatial types (simply put, core city compared to periphery) in addition to population size and relationships between cities.

* or 300 bis 1.500 inhabitants/km^2
** not explicitly listed with number of inhabitants in the article
missing definition in article: #11, #12, #16, #17, #18, #19

Figure 3. Definitional delimitations of small and medium-sized cities in the 20 most cited publications by population mean (own graphic).

Furthermore, six of the 20 studies do not generally define SMSCs, instead referring to individual cities for their respective empirical studies [84,86,89,92,94,95]. This complicates the comparison of different case studies because a lack of precise definitional criteria precludes searching for similar case studies.

The enormous range of definitions makes clear that researchers must consider not only the divergent country-specific legal, cultural, social, and economic conditions but also the different definitions of SMSCs, including their origin, scientific socialization, and publishing context. This renders SMSC research a very broad field, not only thematically but also in terms of definition. Such definitional openness and variability also complicate describing the research fields uniformly and achieving study comparability.

4.2.3. Empirical Research

Although methodological approaches in the empirical studies also differ, comparability can be ensured between quantitative–statistical and qualitative—interpretative procedures. The macroscale studies predominantly use quantitative–statistical methods, such as cluster and variance analysis [57], simulation analysis [95], GIS analysis [97],

and distribution models [89]. Such approaches depict, for example, the spatial patterns of SMSCs or simulation models, which enable better public transport traffic control and the attainment of meaningful objective data allowing valid generalization.

In contrast, studies considering different policies or perceptions of development processes in case study cities on more meso- and microscales often required qualitative interpretative methods, obtaining subjective but coherent impressions. Nonetheless, this review's sample noticeably included many studies not only approaching their investigation subject in a multimethodological way but also using mixed methods. In addition to quantitative methods, such as GIS analysis [93], map analysis [91], regression analysis [96], and household surveys and correlation analysis [83], qualitative approaches were used, including expert interviews [84,91,93], document analysis [88,91,92,94] and methods of visual geography [88]. Such triangulation not only compensates the possible weaknesses of a particular method through the strengths of another method but also increases the external validity of the results, promoting dimensions of nomothetic and ideographic understanding unachievable when using a single method [99].

This methodological diversity, which can be explained by the different research subjects and interests, sometimes very limited across data, demonstrates the thematic diversity that can and should be covered empirically in the field of SMSC research. Nevertheless, it is worth investigating the extent to which the replicability of individual studies is guaranteed; expanding this capacity would enable other regions or cities to be subsequently included in the sample.

Table 3. Analysis overview of the 20 most cited articles.

#	Year	Fields of Expertise of Authors	Research Focus and Object				Demarcation and Case Study (CS)	Empirical Research
			Economic	Sociodemo-Graphic	Ecological	Policy, Governance, Definition		
3	2011	Spatial Economic Research	☒ Retail	☐	☐	☐	Small cities: 5000 to 12,500 inhabitants Medium-sized cities: 12,500 to 20,000 inhabitants	Household surveys by means of questions in 600 households Correlation analysis (Pearson) Single case study for Dutch households
7	2010	Communication Science	☒ Culture	☐	☐	☐	No general definition CS: Tarragona (Spain): 120,000 inhabitants	Qualitative in-depth interviews and surveys (questionnaire study)
8	2016	Regional and Local Development, Economy	☒	☐	☐	☐	SMSCs: 75,000 to 300,000 inhabitants CS: SMSCs in Northern England	Statistical analysis
9	2017	Geography and Spatial Planning	☒	☐	☐	☐	ESPON-TOWN project definition. Further criterion: cities between 5000 and 50,000 inhabitants CS: 31 cities from different European countries	Mixed-methods approach
10	2015	Knowledge Economy	☒ Urban Development	☐	☐	☐	No general definition CS: three medium-sized cities (Oxford, Leuven, Pisa)	Longitudinal study Economy: quantitative study Relational: document study of existing studies and semi-structured interviews Cultural: visual analysis of photographs (importance of material components for the development of the university/city)
11	2013	Innovation Research	☒ Creative Industries	☐	☐	☐		No empirical research—theoretical essay
12	2011	Economic and Business Research	☒ Creative Industries	☐	☐	☐	No general definition individual case studies listed but not empirically discussed	No empirical research
13	2017	Economic Geography	☒	☐	☐	☐	SMSCs: 5000 to 50,000 inhabitants CS: SMSCs in Switzerland	Cluster analysis Analysis of variance (Kruskal–Wallis test)

Table 3. *Cont.*

#	Year	Fields of Expertise of Authors	Research Focus and Object				Demarcation and Case Study (CS)	Empirical Research
			Economic	Sociodemo-Graphic	Ecological	Policy, Governance, Definition		
14	2015	Cultural Geography	☒ Policy	☐	☐	☐	No general definition CS: six SMSCs in Sweden (Jukkasjärvi, Åre, Sunne, Varberg, Växjö, Kosta)	In-depth case studies
20	2009	Economy	☒ Education	☐	☐	☐	No general definition CS: Evora (Portugal): 55,000 inhabitants	Analysis of migration flows to the workplace Distribution model
1	2014	Spatial Planning, Architecture, and Engineering	☒	☒	☐	☐	Besides the number of inhabitants, further conditions, such as hierarchy and linkages to other places, considered CS: Cirebon (Indonesia): 300,000 inhabitants	Demographic and land-use changes through map analysis Economic changes/concentrations by location quotient Settlement development by means of qualitative expert interviews Document analysis of policy, planning documents and newspapers
16	2016	Geography and Spatial Planning	☒	☒ Planning	☐	☐	Definition varied for each contribution CS: from different countries (France, Norway, Canada, Greece, Italy, Poland, Greenland, and Sweden)	
19	2018	Architecture, Urban Studies and Geography	☐	☒	☐	☐	No general definition CS: SMSCs in central and southern Russia	Quantitative: population development calculated between 1989 and 2015 Qualitative: document analysis of planning documents
4	2018	Environmental Sciences	☐	☐	☒	☐	Fewer than 500,000 inhabitants CS: nine SMSCs in South Africa	Multidisciplinary, multimethod approach: GIS analysis by means of raster formation Household survey by questionnaire/interview study

Table 3. *Cont.*

#	Year	Fields of Expertise of Authors	Research Focus and Object				Demarcation and Case Study (CS)	Empirical Research
			Economic	Sociodemo-Graphic	Ecological	Policy, Governance, Definition		
6	2016	Technology and Policy Management, Behavioral and Social Studies, Innovation and Governance	☐	☐	☒	☐	No general definition CS: four case studies in Denmark in the region around Twente, including two urban and two rural areas (Hengelo and Enschede; Tubbergen and Hof van Twente)	Document analysis (policy documents, online articles) Participatory observations during meetings Guideline-supported semi-structured interviews Systematic qualitative data analysis and evaluation of the individual climate actions (– to ++)
15	2010	Traffic Research	☐	☐	☒ Traffic	☐	No general definition CS: Burlington, Vermont (USA): 105,365 inhabitants (urbanized area)	Simulation analysis of traffic data
2	2014	Spatial Planning, Urban Geography, Economy Geography, Social Geography, and Regional Development	☐	☐	☐	☒	Morphological: minimum concentration of inhabitants (between 300 und 1500 inhabitants/km^2 or between 50,000 and 100,000 inhabitants absolute) Administrative: territorial area containing one or more urban settlements Functional: SCMCs act as anchor in urban (functional) regions CS: SMSCs in Europe	Multimethodological (both quantitative and qualitative) GIS analysis (morphological analysis) Descriptive analysis Regression analysis (case studies in different countries)
5	2015	Architecture, Spatial Planning, Geography, and Urban Geography	☐	☐	☐	☒	5000 to 50,000 inhabitants and density from 300 to 1500 inhabitants/km^2	No self-conducted empirical research: Editorial contribution to a Special Issue

Table 3. *Cont.*

#	Year	Fields of Expertise of Authors	Research Focus and Object				Demarcation and Case Study (CS)	Empirical Research
			Economic	Sociodemo-Graphic	Ecological	Policy, Governance, Definition		
17	2017	Social Geography and Regional Development	☐	☐	☐	☒	SMSCs should be characterized not only by size (number of inhabitants, number of jobs), but also relationships with each other. CS: Cities in Catalonia, Czech Republique, Central France, and Slovenia	Functional analysis: Size of settlements (number of inhabitants and jobs) and relationships between settlements (commuter flows to work)
18	2017	Geography, Spatial Analysis, and Tourism Research	☐	☐	☐	☒	Definition as results	GIS analysis

5. Conclusions and Further Research Required

This literature review aimed to provide an overview of current international publication activity in the field of SMSC research and highlight the commonalities and differences between distinct disciplines. The articles analyzed offer a wide variety of perspectives on SMSCs. Given the structured approach and the summaries of individual empirical results, the studies were organized by research focus into broadly coherent dimensions. Although the number of publications has increased in recent years, it can generally be said that large cities and metropolitan areas remain the focus of publication activity in the fields of urban geography, spatial planning, and urban systems research (as representative disciplines in the scientific context). Since the 2000s, increased contribution regarding SMSCs has been observed, with these location sizes gaining importance due to suburbanization and declining agglomeration tendencies in core cities [41–43]. Additionally, the visibility of this research area has been increased at a national level by the establishment of ad-hoc working groups in German-speaking countries [4,45]. Nevertheless, we have shown that, especially against the background of its great importance for the settlement structure, this type of city has been given too little consideration in research to date. Therefore, the aim of this literature review was to give a systematic overview of the research conducted to date and to highlight the focal points.

5.1. Theoretical Implications

Consequently, articles analyzed can be categorized into different research dimensions. In addition to initial attempts to classify or define the actual object of research across national borders and also to deal with questions of policy and governance, research on SMSCs is particularly concerned with economic, sociodemographic, and ecological issues. Although no direct reference to sustainability discourse is made in these articles, it is nevertheless striking that the categorization can be broken down into the three dimensions forming the sustainability canon: economic, social, and ecological (see Section 4.2). In the course of this, we see that SMSC research is moving far beyond the topic of cities by implementing other subjects, especially from the canon of sustainability research. In this context, the research carried out to date shows the role that SMSCs in particular play in the field of sustainability as places to live and work (for example, for a large proportion of the population in Europe). Although these are typically analyzed predominantly independently of each other in sustainable research studies, with the ecological sectors often being the focus [100], in the field of SMSC research, a concrete focus on the economic sector emerges.

The analysis of the texts shows that the researchers generally agree that proximity to large cities and agglomerations can influence the positive economic, sociodemographic, and functional development of SMSCs by, for example, borrowing size effects in the neighborhoods of city regions [101]. However, other important indicators are routinely indicated to be critical for the development dynamics of SMSCs, including innovation ability, networking, and intensity of cooperation with other cities, as well as transport infrastructure connections, control through network-related spatial planning approaches, and the positioning of individual buildings. Additionally, demographic, economic, and cultural developments are mutually dependent, all, thus, contributing to the quality of life and attractiveness of a city.

5.2. Further Research Required

In principle, the results of the literature review confirm that in recent years there has been an increase in research activity in the field of SMSC research, and thus the scientific focus is more on this special type of city. However, it is also evident that SMSCs have very different characteristics and are, therefore, interpreted very differently in individual case studies, not only in terms of the definition of the object of study itself. This leads to further research topics with regard to SMSCs, which should break new ground both methodologically and in terms of content:

First, research on SMSCs has gained an international foothold across disciplinary boundaries, not only in spatial sciences, such as geography, spatial planning, and urban studies, but also in, for example, environmental sciences, architecture, and (transport) engineering. With reference to this, only recently have studies and projects been identified that discuss spatial planning issues in particular with regard to SMSCs [102,103]. To date, "a political and social reception and reception gap" [47] for these types of cities can be identified. Not only for Germany's polycentric urban system do SMSCs represent important anchor points in rather rural as well as suburban regions, but also internationally, these city types should be considered in territorial development. Especially from the point of view of increasing urban sprawl, the adapted development of SMSCs can make an important contribution to sustainable planning and lifestyles.

Second, we can state that concerning SMSCs, mostly only individual case studies and no systematic, quantitative investigations can be found in the scientific literature [46]. In this context, greater availability of data for larger systematic overviews is required, for example, data concerning spatial patterns or city typologies in a national or international context. According to PORSCHE et al. (2019a) [4] (p. 11, translated by the author), writing about small city research, "the basis for systematic and evidence-based research is the availability of suitable, small-scale, verified statistical data". Geography and spatial planning can play an important role in this regard, with the availability of such data needing to be examined within the framework of scientific research to demonstrate where there is a concrete need for improvement—including on the part of the authorities—to enable empirical research on both larger scales and microscales, such as at the district level [100].

Third, especially in terms of content, only a few studies address spatial challenges beyond economic, demographic, functional–spatial, and sustainability issues. The field of spatial infrastructure provision in an urban context, for example, has recently been gaining increasing importance in the scientific community [104]. With reference to the approach of *Splintering Urbanism* by GRAHAM/MARVIN (2001) [105], distributional interest and property issues in urban spaces are also becoming the focus of research. From the point of view of spatial planning, the field of services of general interest is also opening up. In this context, urban areas not only play an important role with regard to the provision of technical infrastructures, such as gas, water, electricity, or digital networks, but also social and cultural infrastructure contribute to the welfare state's basic provision. Although SMSCs are regarded as cultural centers and places with strong identities [106], especially in rural areas, only a few studies consider, for example, their specific cultural endowments [107,108]. Importantly, the significance of cultural services of general interest is emphasized through intuitions in communities of this size, which are often run by volunteers or civil society. This is surprising given the provision of cultural infrastructures is already a question of social (in)equality, which, therefore, also contributes to the establishment of equal living conditions. It follows that questions remain unanswered regarding SMSC integration into larger systems of national and international city hierarchies, especially in the context of economic, social, functional, and cultural factors, and the significance of such integration. This is where research should also include SMSCs with their specific characteristics and pay attention to their great importance as anchor centers in space. Concerning the subject of sustainability, a deeper consideration of sociodemographic (for example, the meaning of infrastructures in a social sense [109]) and ecological sectors—not only individual case studies but also systematic investigation—would be a starting point for future research.

Forth, scientists should more critically consider definitions of the research object, addressing it systematically in the context of a literature review. As we have shown, the understanding of SMSCs is very different and is influenced by population density and their distribution in different countries. To avoid definitional inaccuracies and polyphony, a first step could be, for example, to consider small town and medium-sized cities separately and establish new lines of research for each [4]. Moreover, clear distinctions should be made between disciplines, such as geography and spatial planning, and spatial types, such as rural and peripheral areas. Extant studies do not distinguish clearly between these types of

areas, producing an urban–rural dichotomy based on average-sized municipalities [52]. Such a differentiated consideration would enable the more precise development of unique selling points based on city type, including the deconstruction of consolidated city types. Accordingly, a broader theoretical basis for research on SMSCs should be established to enable cross-national and comparative studies.

Fifth, SMSC research is particularly suited to geography and spatial planning, in both interdisciplinary and transdisciplinary senses, enabling concrete work in space with the involvement of other actors, including from outside of the scientific domain. In the future, this promotes more inter- and transdisciplinary projects that integrate issues in the field from different perspectives and address future spatial challenges. In terms of research pragmatics, attention should also be paid here to opening up to society, as great potential can be seen here, especially in the research of SMSCs. In particular, cities of these sizes, which serve as places of residence and work, offer a variety of starting points for involving other groups of actors in research projects, ensuring results are accessible to those external actors, and enabling the co-production of knowledge beneficial for society [110].

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