

Multilingualism of social sciences

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Abstract: This chapter aims to provide a comprehensive view of the role of language in academic publishing in social sciences. It also advocates the balanced multilingualism as an approach that supports taking language into account in all aspects of research assessment without prioritizing scholarly communication in any language over publications in other languages. To do this, we elaborate a geopolitical perspective on academic publishing that highlights the role of language in science and the benefits of multilingualism to society. Then, we provide new insights into multilingual publishing in the social sciences using bibliographical data from national current research information systems. Finally, we present the concept of balanced multilingualism in light of various policy initiatives, among others the Helsinki Initiative on Multilingualism in Scholarly Communication, to provide recommendations on how multilingualism can be taken into account at all stages and across different types of qualitative and quantitative research assessment procedures.

Keywords: multilingualism, research assessment, publication language, domination of English, social sciences

1. Introduction

Language is not a feature of scholarly communication but its very foundation. Thus the choice of language in which researchers communicate their results substantially influences debates and decision-making related to, for example, cultural heritage, migration, and various other cultural and social challenges. Regional topics are often firstly discussed with local scholars and might be debated internationally at a later stage. The key analyses of social world phenomena, however, are inevitable intertwined with the language in which they are conducted. The purpose of this chapter is to provide a comprehensive view of the role of language in academic publishing in the social sciences. Background to multilingualism in scholarly communication is provided in this introduction, which is followed by section 2 on Geopolitics of publication language, section 3 on multilingual publishing in social sciences, and section 4 on balanced multilingualism in research assessment. In the end, chapter concludes by providing practical implications regarding multilingualism and assessment.

Language as a medium of scholarly communication is not neutral. A choice of language might for example be perceived as a result of global power relations across nations. Yet scholars benefit

from a common platform, that is one language, to communicate with as many colleagues from their field as possible. For most fields and disciplines, including the social sciences, this international lingua franca is currently English. In today's science, publishing in English is predominant in such domains as medicine, biology and chemistry but this was not always the case. During the first two decades of the 20th century, science was communicated more often in German than in English, and French also played a significant role (Gordin, 2015). Even now, however, the COVID-19 pandemic has clearly demonstrated that research results should be communicated also in local languages to inform the public (Taskin et al., 2020). In the social sciences, research is conducted and published in multiple languages all over the globe but the current yardstick of scholarly assessment is too often academic publishing in English.

In the social sciences and the humanities (SSH), researchers who study culture and society often publish in local languages because it allows to foster engagement with stakeholders and the public. It should be noted, however, that researchers often publish in more than one language, most often in local languages and English (Kulczycki et al., 2020) to communicate not only with local audiences but also with peers worldwide. Some SSH fields have been able to maintain a highly multilingual publishing culture in the international dissemination of results. For example, in the field of Roman law, English, Spanish, Italian, German and French are still relevant international publishing languages (Pölonen & Hammarfelt, 2020).

Multilingualism has been defined in different ways (Aragón-Vargas, 2014; Salager-Meyer, 2014; Sivertsen, 2018; Tardy, 2004). In scholarly communication studies multilingualism is treated either as (1) writing and academic publishing in more than one language or (2) having publications in more than one language during the analyzed period. The first part of definition relates to a practice of writing papers by a researcher and publishing them (in either peer-reviewed journal articles and scholarly book publications) in two or more languages. The other part of definition highlights that a given researcher can have in their publication portfolio publications in two or more languages but some of them might be translations provided by researchers themselves or other persons. It is important to add that many scholars use the help of professional editors, proofreaders and translators to publish their papers in English without acknowledging that the original (sometimes unpublished) version was written in a different language and translated by another person than the author.

A picture of scholarly publishing in social sciences is often based on data from international databases like Web of Science or Scopus. These databases have a very unsatisfactory coverage of journals publishing in local languages (Kulczycki et al., 2018) and of scholarly book publications, which play an important role in the social sciences (Engels et al., 2018). One way of overcoming these challenges is to develop and use national bibliographic databases (Sile et al., 2018) that index the whole production of researchers from a given country, including all publication types and languages. This is important because multilingual publishing is an ongoing practice in many research fields regardless of geographical location, political situation, and historical heritage. Kulczycki et al. (2020) analyzed over 160.000 peer-reviewed journal articles indexed in national bibliographical databases and demonstrated that in seven European countries English tends to be the dominant language of science, and that SSH researchers often produce culturally and societally relevant work in their local languages.

Multilingual publishing, however, is becoming less recognized in terms of research evaluation and careers of researchers. One can observe that in research policy, evaluation and funding systems there is a need for balancing the push for international research excellence with local relevance and societal impact. In the last two decades various countries worldwide, for instance, Australia, Finland, Norway, Poland, and the UK have implemented performance-based research funding systems (PRFS) and incentive regimes linked to publications and other outputs. In various countries, research articles published in English are treated as articles of higher quality and as a reflection of internationalization (Ochsner et al., 2018; Sile et al., 2018). In this way, evaluation

regimes might influence publication practices and modify research agendas (Bianco et al., 2016; Neff, 2018). As a result, researchers might be steered away from locally relevant research published in local languages towards decontextualized approaches of interest to English-language audiences (López Piñero & Hicks, 2015). To prevent this, a key prerequisite is to recognize multilingual publishing and publication in languages other than English in evaluation and funding systems. The cases of the Flemish and Finnish PRFSs, among others, demonstrate that it is possible to develop a PRFS publication indicator based on a national bibliographic database, which takes national language publications adequately into account (Engels & Guns, 2018; Pölönen et al., 2018).

2. Geopolitics of publication language

The geopolitical competition across global powers like the United States and China is highly manifested also in science and scholarly communication and not only in politics or economy. In the production of scientific knowledge, one can observe that publishing the highest number of publications in top-tier journals (almost exclusively in English) is perceived as the hallmark of power. When China in 2018 declared itself to be the largest source of journal articles (Tollefson, 2018) indexed in international databases (highly biased towards publications in English), and announced large-scale reforms in its research evaluation systems to valorize more domestic scholarly publication channels (Zhang & Sivertsen, 2020), a question of the language of global scholarly communication has again become a hotspot: does China intend to make Chinese the *lingua franca* of science? This question shows that the language of scholarly communication is not just a medium but also an instrument of power to communicate and control research, developments and innovation produced by researchers in a given country.

Researchers choose a language of scholarly communication depending on internal factors such as the level of the foreign language skills and the external factors such as the targeted audience, research topics or publication patterns expected by researchers' peers, funders, institution or country. For many years, scholarly communication has had its *lingua franca* which not always was English (more widely used language by non-native speakers than native speakers) but also Latin, French, or German (Gordin, 2015; Tardy, 2004). It should also be noted that there are other languages which serve as a 'limited' *lingua franca* for social sciences in specific regions, for instance Spanish for Latin America or Arabic for Arab world. Thus the share or publications in English in a given country should be interpreted not only as the level of internationalization or globalization of social sciences but also in the light of the size of the scientific community in a given country. Countries with a smaller number of speakers of the local language (e.g. Denmark or Norway) have a smaller 'local' market for academic outputs than bigger countries like Poland or Italy.

Language inequalities resulting from bias toward English in scholarly publication channels cannot be simple reduced by teaching academic English in non-English speaking countries. Researchers from countries such as Great Britain or the United States are at the advantage from the start and do not have to work on the professional development of a second language. Moreover, language proficiency does not automatically imply an ability to write academic texts in this second language because each language has its own genres. Some genres, even such a crucial one for science as scholarly journal articles, might be realized differently across languages and contexts (Tardy, 2004). It means that a researcher who can write journal articles in, for instance, French and can speak and write in English may not be able to write a journal article in English that meet the key requirements of the genre in this language.

The geopolitical nature of publication language is twofold. On the one hand, the majority of top-tier publication channels, as typically recognized by researchers, funders and institutions, publish papers only in English. The main reason for this is that the standard journal rankings employed in assessments are based on Impact Factors, which recognize only a selected group of international

journals publishing in English and indexed in the Web of Science and Scopus databases. Focusing on high impact factor journals favors scholars and research topics from English-speaking countries and causes language-based inequalities in access to knowledge, funding, and positions (Hicks et al., 2015). On the other hand, Web of Science and Scopus databases are ready-to-use and have become the standard tools for reproducing scholarly communication in research evaluation and funding procedures (Aksnes & Sivertsen, 2018). This contributes, though various rewards and incentives, to the language inequalities and may discourage publishing in languages other than English.

Web of Science and Scopus databases are used also in various global university rankings (Kehm, 2014). It has been shown, for example, that universities in English-speaking countries rank ahead of universities from other language regions in reputation and research performance (Selten et al., 2020). Since these databases cover mostly publications in English, various countries and institutions, which aim in improving their ranking position, favorize publications in English or provide various monetary rewards (Quan et al., 2017; Stockemer & Wigginton, 2019). One of the consequences of this English-focus in international citation databases is a gap in citations of non-English publications. From this perspective, Dahler-Larsen (2018) names efforts to publish in languages other than English as becoming 'lost science' and suggests to use a new indicator (the PLOTE-index) to measure the percentage of citations flowing from the non-English publications of a researcher or a group of researchers.

3. Multilingual publishing in social sciences

Despite language inequalities in social sciences and bias of international indexes to cover mostly English publications, multilingual publishing is a practice vital and visible across various countries and subfields of social sciences. In this section of our chapter, we use the data from seven European countries, which formed the basis of our previous joint study on multilingual publishing (Kulczycki et al., 2020) covering the humanities and social sciences, and recalculated results focusing solely on social sciences. Moreover, we present a new original analysis of Polish data on multilingual publishing that is enriched with information about the gender and seniority of the authors.

3.1. Publication language patterns in seven European countries

To study the language patterns of social science researchers in seven European countries, we used information about peer-reviewed journal articles published by 32,386 researchers in the 2013–2015 period from Czech Republic, Denmark, Finland, Flanders [Belgium], Norway, Poland, and Slovenia. Analyzed articles were registered in the comprehensive databases of seven countries: the National Registry of RD & I Outputs (RIV) for the Czech Republic, the Danish Bibliometric Research Indicator (BFI) for Denmark, the Flemish Academic Bibliographic Database for the Social Sciences and Humanities (VABB-SHW) for Flanders (Belgium), the VIRTIA Publication Information Service for Finland, the Norwegian Science Index (NSI) for Norway, the Polish Scholarly Bibliography (PBN) for Poland, the Slovenian Current Research Information System (SICRIS) for Slovenia.

Language patterns across countries

Figure 1 presents the shares of social science researchers in each of the seven European country who published at least three peer-reviewed journal articles throughout the 2013 to 2015 period, and published them in one, two, and three or more languages. Overall, 54,2% of the researchers published in more than one language, however considerable differences were observed between countries, as the share ranged from 68,5% in Slovenia to 33,5% in Flanders (Belgium).

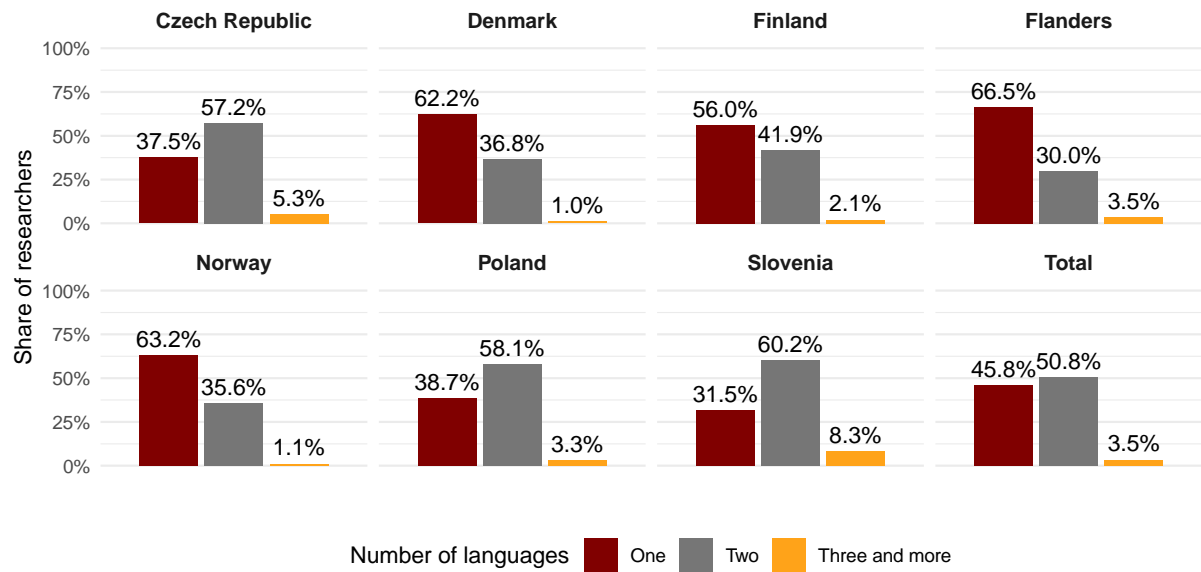


Fig. 1. Language patterns of article publishing on the researcher-level across countries. Researchers who published at least three articles (N = 16,972)

Language patterns across fields

Figure 2 presents the mean number of publishing languages for researchers in each of the nine social science subfields, as based on the classification of the Organisation for Economic Co-operation and Development Revised Fields of Science and Technology classification (2007). The highest means were found for Slovenia (in “Media and Communications,” “Other social sciences”) and the lowest ones for Denmark (“Social and Economic Geography” and “Economics and Business”). Especially in Denmark, Finland, Flanders and Norway, researchers in “Psychology and Cognitive sciences”, “Economics and Business”, and “Social and economic geography” tend towards a more monolingual profile than researchers in the other social science fields. Such differences between fields are less pronounced in the Czech Republic, Poland and Slovenia.

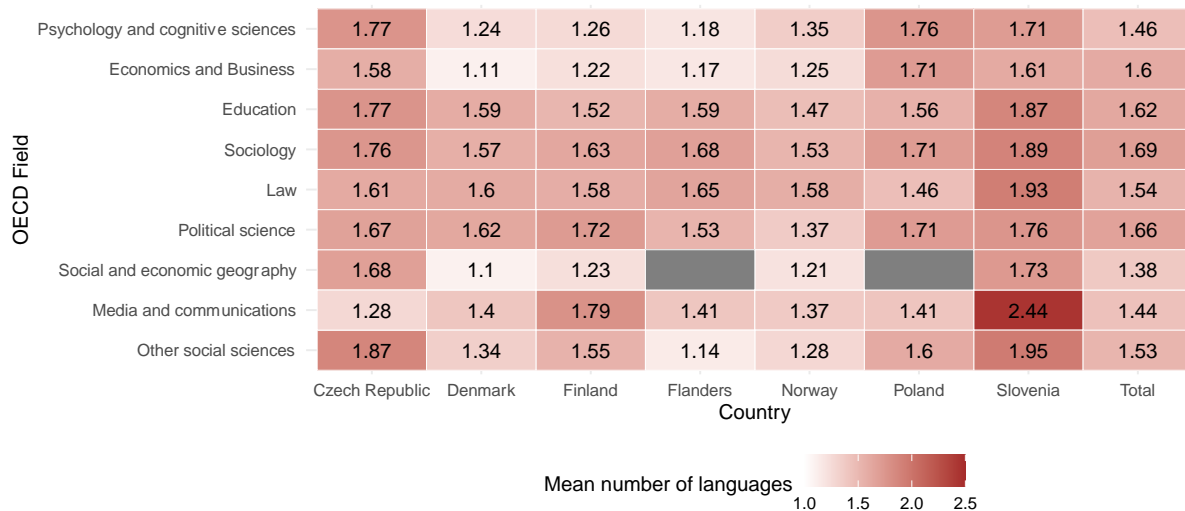


Fig. 2. The mean number of languages in which researchers from a given OECD field published articles across countries. Fields are ordered according to the OECD classification. Gray cells indicate that no researcher is assigned to this field in this country. Researchers who published at least three articles (N = 16,972)

Language patterns across gender

Figure 3 presents the share of female and male researchers, counted together from all seven European countries, who published one, two or three and more languages. The results show that a considerably larger percentage of the female (56,9%) than male (52%) researchers published in two or more languages.

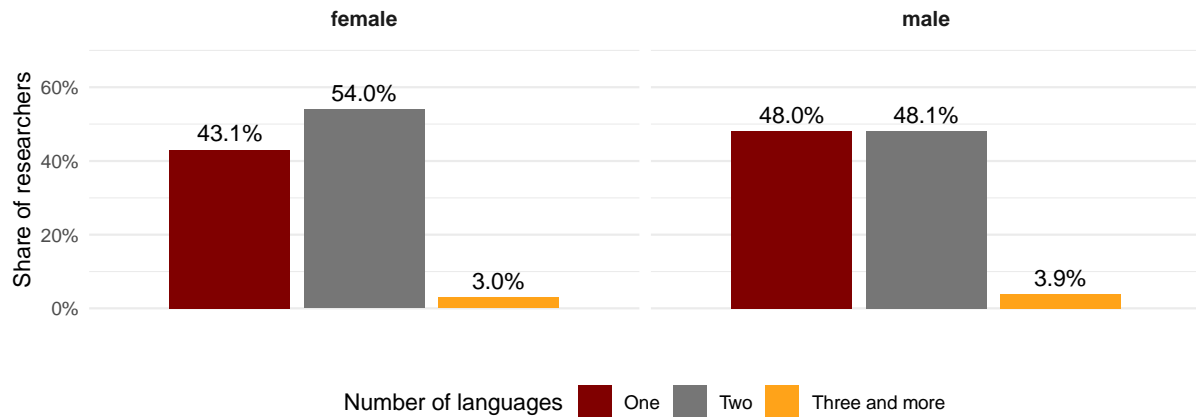


Fig. 3. Language patterns of article publishing on the researcher-level. Researchers who published at least three articles (N = 16,958)

3.2. Publication language patterns across seniority

In this section, we analyze the data from one non-English speaking country, that is Poland, which collects detailed data on researchers and their publications in a national current research information system (Kulczycki & Korytkowski, 2020). The unique feature of this analysis relates to including all types of peer-review publications (not only journal articles but also scholarly book publications) and providing the analysis on the researcher level taking into account the seniority in terms of the number of years since their Ph.D. (0–10, 11–20, 21–30, 31–40, 41–50, 50+).

We have used the data registered in the Polish current research information system of 14,420 Polish researchers from the social sciences and their 234,290 peer-reviewed publications (all types) from the 2013-2016 period. We included only those researchers who published at least one publication in the period in question.

Figure 4 presents the number of languages, in which the Polish researchers published in the different social science subfields, according to seniority. The results show that in all fields, there are researchers who published in at least three languages during the four-year period. We observe outliers in Law, where there are single researchers who published in eight languages, and in Educational sciences and Political science, where some researchers publish in seven different languages. One of the explanations of these outliers is that some of these publications are translations provided by the authors and/or other persons.

The analysis in terms of seniority reveals that multilingual publishing is a vital practice in all age-groups. We found, however, some differences between the early career researchers (0–10 years since their Ph.D.) and senior researchers (11+ years): 5,492 (65%) of 8,403 researchers from the former group published in two or more languages, whereas only 3,702 (61.5%) of 6,013 researchers from the latter group published in two or more languages. The share of researchers publishing in two or more languages is smallest among the oldest generations (31+ years since their PhD): only 950 (54%) of 1,738 researchers published in two or more languages.

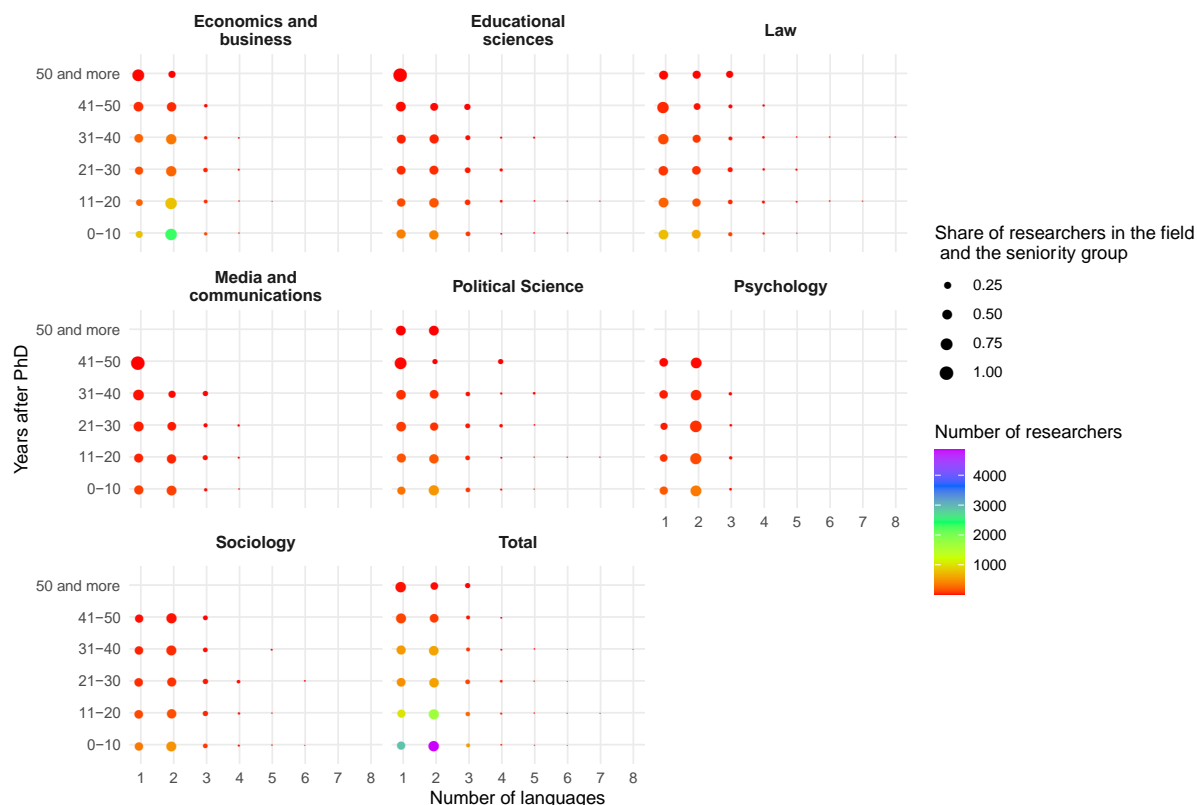


Fig. 4. 14,420 Polish researchers from social sciences who published 234,290 publications (all types) in the 2013-2016 period according to the field and the seniority

Figure 5 presents the publication patterns among Polish social science researchers in terms of the seniority group and publishing in English. Only 375 (2.6%) researchers published solely in English whereas there are 4,519 (31.3%) researchers who published only in Polish. Among the 5,574 researchers who did not published in English, there are 359 who published in two or more languages (two of them published in five languages) mostly in German and Russian. Table 1 elaborates this picture and shows that 9,165 (63.6%) of 14,420 researchers published at least one publication in English.

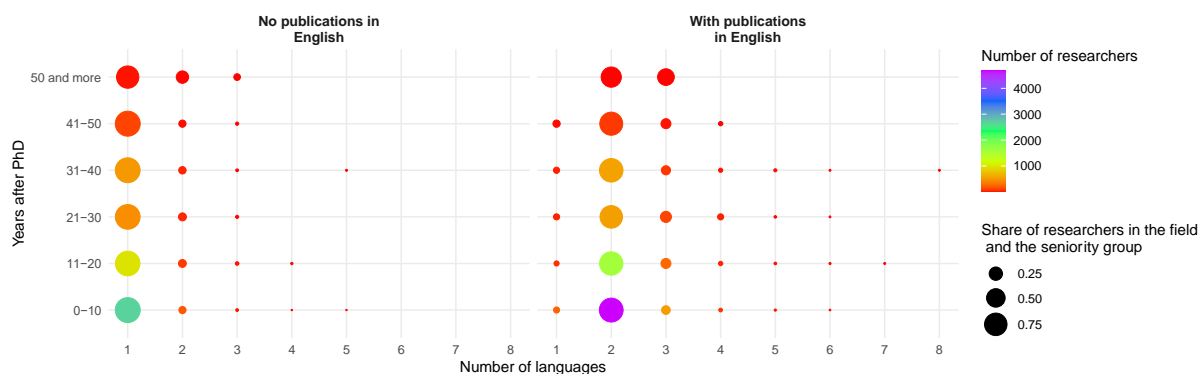


Fig. 5. 14,420 Polish researchers from social sciences who published 234,290 publications (all types) in the 2013-2016 period, divided according to whether they did or did not publish at least one publication in English in the analyzed period.

Table 1. Number and share of researchers who published at least one publication in English in the 2013-2016 period across fields.

Field	Number of researchers who published in English	Share of researchers in the field who published in English
Psychology	4,253	75.6%
Economics and business	723	74.2%
Educational sciences	997	61.0%
Sociology	1,002	58.3%
Law	858	55.4%
Political Science	204	51.8%
Media and communications	1,128	44.8%
All researchers	9,165	63.6%

The analysis of Polish researchers adds new insights on top of our seven-country study on multilingualism by showing that multilingualism is an even more important practice when all publication types are taken into account (Kulczycki et al., 2020). It also highlights that recognizing multilingualism in assessment is vital especially for the early career researchers.

4. Balanced multilingualism in research assessment

Practically all research assessments approach quality and impact by means of qualitative or quantitative analysis of publications. Typically, experts in the field assess research by contents of publications, or some form of publication or citation analysis is carried out to compare productivity or impact. Some qualitative and quantitative analysis are combined, e.g. when bibliometric indicators inform assessment by peers. Ideally, language should be a non-issue in assessment. Researchers, for example, should be recognized according to the results and the impact of their research despite the language of application or publication. In practice, assessment criteria are often far from language neutral.

For several decades, international excellence, collaboration and mobility, including communication of research results to international experts, have been important science policy goals. At the same time, English has increasingly become the international language of science. Across almost all fields, internationality in publishing is often equated with scholarly communication in English, and international excellence is commonly measured by publications and citations in journals indexed in databases such as Web of Science or Scopus. In many countries, the strong emphasis on international excellence has resulted in privileging of English language publishing over communication of research results within and beyond academia in other languages.

Yet national languages remain relevant for both the STEM and SSH fields, for somewhat different purposes. Comprehensive publication data from Finland shows that more than 70 % of not peer-reviewed outputs – including publications targeted to professional and general audiences – are in the national languages in both STEM and SSH fields. The main difference is seen in the peer-reviewed publications, in which researchers demonstrate the results and applications of their research to other experts. Whereas in STEM fields almost all peer-reviewed publications are in English, in the SSH fields also national and other languages play an important role, as shown by our analysis of publication patterns in the previous section.

While the share of peer-reviewed publications in English has increased in all fields, in many countries perhaps the most dramatic changes towards preference for English language journal publishing have taken place in the social sciences. Social sciences are also highly peculiar in terms of the variety in use of different publication types and languages between its subdisciplines. Law is particularly oriented towards publishing in books and in national languages, while Psychology

is close to the international journal publishing culture of STEM fields. Even within one subfield, such as Education, both orientations are present.

In addition to fields, there are also large differences between countries in the use of English language in scholarly communication. Kulczycki et al. (2018) have shown in a study of publication patterns in eight European countries that in the West European and Nordic countries a larger share of peer-reviewed output in the SSH fields is in English compared to the Central and Eastern European countries. Such differences may depend on several factors, such as political and scholarly traditions, the number of speakers defining the potential market for the national language outputs, and by evaluation and funding systems. According to the European Network for Research Evaluation in the Social Sciences and the Humanities (ENRESSH), internationalization policies should not only be balanced with regard to societal responsibilities, but also be designed with consideration of national context:

In the Western and Northern European countries, research would bring stronger benefits to society if its results were increasingly communicated in national languages, in addition to English. In the Central and Eastern European countries, it would result in stronger research if results were increasingly communicated to international experts, in addition to national audiences. (ENRESSH, 2019)

While it is important to communicate research results to international audiences, research, when communicated exclusively in English, risks not fully meeting all its missions. In recent years, policies for Responsible Research and Innovation (RRI) and Open Science call for increasing access to research, interaction between science and society and public understanding of science (Gerber et al., 2020; Novitzky et al., 2020). This is possible only if research is communicated in multiple languages, including those actually written and spoken in local communities. According to the first draft of UNESCO Recommendations on Open Science, diversity of languages is one of core values of open science:

Diversity: Open Science should embrace a diversity of practices, workflows, languages, research outputs and research topics that support the needs and epistemic pluralism of diverse research communities, scholars, knowledge holders and social actors from different countries and regions. (UNESCO, 2020)

According to the European University Association (EUA), “Multilingualism is particularly relevant for Europe, as its research is characterized by geographic, cultural and linguistic diversity and the common principle of excellence” (European University Association, 2019). The COVID-19 pandemic has highlighted globally the need and value of multilingual and interdisciplinary scholarly communication not only between researchers, but also to reach decision-makers, professionals and citizens (Taskin et al., 2020).

Access to information and non-discrimination based on language is also a matter of human rights. The United Nations’ Universal Declaration of Human Rights article 27 states that “everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits” (United Nations, 1948). Also the Charter of Fundamental Rights of the EU places an obligation on the Union to respect linguistic diversity (Article 22) and prohibits discrimination on grounds of language (Article 21) (McCrudden & Prechal, 2009).

Because assessments steer research through distribution of resources, rewards, and merits, language biases in assessment can compromise equal opportunities for individual researchers and institutions. Intended or unintended language priorities in assessment may lead to systemic undervaluation of SSH research compared to STEM fields in funding, and endanger locally

relevant research and knowledge transfer beyond academia. Therefore, assessments protocols need to adopt a balanced approach to multilingualism (Sivertsen, 2018):

Balanced multilingualism is to consider all the communication purposes in all different areas of research, and all the languages needed to fulfil these purposes, in a holistic manner without exclusions or priorities. Balanced multilingualism is also to establish instruments for documenting and measuring the use of language for all the different purposes in research, thereby providing the basis for the monitoring of further globalization of research in a more responsible direction.

It is increasingly recognized in policies on responsible assessment that “multilingualism is an important but often neglected dimension of diversity in research, helping to ensure that research remains locally relevant and accessible” (Curry et al., 2020). One of the main tenets of the international movement to promote responsible research assessment, starting with the DORA declaration in 2012 (<https://sfdora.org>), is to value diversity of outputs, activities and impacts. Also the Leiden Manifesto for research metrics, and the Metric Tide report, have contributed to the definition of diversity in responsible assessment, emphasizing the importance of recognizing differences between fields:

DORA: 4. For the purposes of research assessment, consider the value and impact of all research outputs (including datasets and software) in addition to research publications, and consider a broad range of impact measures including qualitative indicators of research impact, such as influence on policy and practice (San Francisco Declaration on Research Assessment – DORA – <https://sfdora.org>).

Leiden Manifesto: 2. Measure performance against the research missions of the institution, group or researcher; 3. Protect excellence in locally relevant research; 6. Account for variation by field in publication and citation practices. (Hicks et al., 2015)

Metric Tide: 4. Diversity: accounting for variation by field, and using a range of indicators to reflect and support a plurality of research and researcher career paths across the system. (Wilsdon et al., 2015)

The Leiden Manifesto specifically warns against equating excellence with English language publications in high Impact Factor journals indexed in the Web of Science. Instead, “metrics built on high-quality non-English literature would serve to identify and reward excellence in locally relevant research” (Hicks et al., 2015).

The Helsinki Initiative on Multilingualism in Scholarly Communication (<https://www.helsinki-initiative.org>), launched in 2019, aims specifically to promote the language diversity and value of multilingualism in scholarly communication (Kulczycki et al., 2019). Improving research assessment is one of its three main goals: 1) support the dissemination of research results for the full benefit of the society, 2) protect national infrastructures for publishing locally relevant research, and 3) promote language diversity in research assessment, evaluation, and funding systems.

Taking stock of the international discussion on responsible research assessment, the Helsinki Initiative emphasizes that language biases are produced in both evaluations based on research metrics as well as evaluation based on expert assessment:

Helsinki Initiative: Make sure that in the process of expert-based evaluation, high quality research is valued regardless of the publishing language or publication channel. Make sure that when metrics-based systems are utilized, journal and book publications in all languages are adequately taken into account.

In all kinds of evaluation procedures, the selection of assessment language(s) (whether English or some other language) in which information has to be provided, can discriminate against researchers who are not native speakers or fully fluent in the given language(s). A fundamental challenge is that the proficiency with which a proposal, manuscript or publication is written may affect the expert's assessment of the quality of research (Kancewicz-Hoffman & Pölönen, 2020).

Perhaps the clearest example of everyday language bias in expert evaluation comes from the manuscript peer-review, where it is a frequently reported experience of non-native English speakers that reviewers judge their research based on the quality of their writing instead of the content (Pérez Ortega, 2020; Romero-Olivares, 2019). Especially in arts and humanities, writing can be part of the research process, and the narrative style and expression are an important dimension of quality (Sapiro & Seiler-Juilleret, 2016). While writing skills may affect the success also of native speakers in gaining research funding, non-native speakers are often at disadvantage when it comes to expression of research plans and results. According to a recent analysis, clarity is among the six most frequent criteria peers use to assess grant applications. According to Hug and Aeschbach (2020):

Clarity [as] criterion evaluates an entity with regard to its comprehensibility and clarity. Evaluations are indicated by adjectives such as clear, comprehensible, explicit, organized, well written/articulated, or nouns and adverbs derived from these adjectives. Examples: 'clear presentation (interview)', 'application poorly written and/or disorganized'.

It has also been pointed out in the context of institutional research assessment exercises that “care needs to be taken to deal with how work in a variety of languages can be fairly assessed” (Deem, 2016). The selection of evaluators, and their language skill, is a relevant concern. International experts may not be able to evaluate the content of research published in languages other than English, especially a local language, even if it might be relevant in the given field to publish original research in different languages. Another question is, if highly internationally oriented researchers are chosen as evaluators, they may also be disinclined to value research published in languages other than English.

One challenge in assessment is that international excellence or publishing is too often equated with English language publishing (Neylon, 2019; Robinson-Garcia & Rafols, 2020), or even as publishing in journals indexed in the Web of Science or Scopus. Using publication language (especially English) as a criterion may compromise fair assessment of researchers and units with strong orientation and mission toward locally relevant research or societal interaction. As Sivertsen (2016) points out, “coverage in a commercial indexing service should not be used as a criterion for research quality or an indicator of internationalization in the SSH”. Original research published in languages other than English can be of high international quality, while national publication language does not automatically mean strong societal impact.

Research metrics—such as publication and citation counts—are typically used in research assessment and funding procedures in two ways. Firstly, research metrics are often used to inform expert-judgment for example in institutional research assessment exercises or assessment of personal performance of researchers. Secondly, allocation of funding between institutions, units or even individuals can be directly based on research metrics. Whenever research metrics are used, language biases frequently result from the choice of data source as well as quality and impact indicators, which typically do not take different publication languages into account adequately or fairly.

All over the world, evaluation and funding procedures frequently rely on publication, citation and journal metrics based on international databases, notably WoS and Scopus (McKiernan et al., 2019; Saenen et al., 2019; Zhang & Sivertsen, 2020). According to Kulczycki et al. (2020), these commercial databases covered only 25-31% of the 164,218 peer-reviewed journal articles

published by SSH researchers from seven European countries in 2013–2015. Even more importantly, Web of Science and Scopus coverage proved extremely limited in the case of articles published in the local languages of the seven countries (3-8%) and in languages other than English (11-17%). Because journal metrics, such as JIF, SJR or SNIP, are available only for journals indexed in WoS and Scopus, using them as assessment criteria involves the same bias toward English language journal articles.

Another problem with basing assessments of research and researchers on WoS and Scopus data is that these databases completely omit the diversity of research outputs in the social sciences: books, national journals and non-scholarly publications (Hicks, 2004). These types of outputs are predominantly published in local languages, and serve the important purpose of communicating science also to broader professional and general audiences. All the main international statements on responsible research assessment — DORA, The Leiden Manifesto, Metric Tide — as well as the European Open Science agenda, promote a move away from narrow assessment criteria based on peer-reviewed journal articles (European Commission, 2018).

One possible solution to overcome the limited coverage of the standard international information sources, notably Web of Science and Scopus, in assessment is to develop and make use of more comprehensive information sources covering publications in all languages, types and target audiences (Kancewicz-Hoffman & Pölönen, 2020). Google Scholar, Microsoft Academic, and Dimensions are new and promising information sources, however large-scale analyses have shown also their limitations in coverage of publication outputs especially in the social sciences and humanities (Martín-Martín et al., 2020; Visser et al., 2020). So far, the most comprehensive coverage of research output is provided by institutional Current Research Information System (CRIS) and national bibliographic database (Sile et al., 2018; Van Leeuwen et al., 2016). To combat the predominance of the Journal Impact factor, also more comprehensive lists of peer-reviewed journals and book publishers publishing in different languages can be developed international, national and institutional level (Pölönen et al., 2020). Kulczycki et al. (2018) suggest that “the role of national databases, which cover all publication channels important for the SSH, should be increased in research evaluation systems, funding-schemes, and university rankings”.

Practical Implications for research assessment

- Following the DORA declaration, assess research quality based on content, not language of publication;
- Take language and language biases into consideration already when planning evaluation, assessment or funding procedures;
- Publications in all languages need to be taken into account;
- When enlisting evaluators, ensure that they have required language skills to assess research outputs in relevant languages;
- Consider not only peer-reviewed publications but also publication aimed at professional and general audiences;
- When using metrics, pay attention to limited representation of research output in different languages in the standard international data sources, such as Web of Science and Scopus, and related indicators.
- Develop and rely on comprehensive publication data that cover both peer-reviewed and other outputs regardless of language.

5. References

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