

European Social Survey academic impact monitoring
Annual report 2022

Brina Malnar

Public Opinion Research Centre at the Faculty of Social Sciences, University of Ljubljana

Aims, methods and content of the report

In order to evaluate ESS academic impact, both internally and externally, inform its questionnaire design and re-design, and guide its outreach and communications actions ESS collects continuous and detailed feedback on its academic use. Bibliographic monitoring provides the following **information, outputs and guidance**:

- Longitudinal empirical evidence on the scope, **geographical and disciplinary patterns** of ESS academic usage, theory development and policy references;
- Empirical support for **informed decision-making** of the ESS bodies (CST, SAB and QDTs) concerning the questionnaire content (item and modules selection and revision), targeting training and communication strategies and similar;
- Summary **bibliographic reports**, a full **list of citations** with a possibility to produce tailor-made sub-lists according to various criteria (Appendix 1) and **item usage statistics** (Appendix 2). These documents help demonstrate ESS academic relevance to European and national funders and users (NCs, GA);
- **Bibliographic repository** for other work packages to be used for methodological testing, updating of ESS online bibliography, as well as to support ESS communication actions and produce relevant outreach materials.
- The source of annual **refreshments to the new ESS online bibliography** which renders bibliographic variables available to the general audience and enables users to browse ESS publications according to a variety of criteria. For data users, it is essential to know which other analyses have been already performed with the data set and bibliographic information is an important source of contextual metadata about a study (Fear 2013; Kern 2015).

The 2022 annual bibliographic report (Deliverable 11.12) includes publications for the **period 2003-2021**. Across the report, an **ESS-based publication** is defined as any type of academic publication in English language, i.e. *journal article, book, book chapter, published conference, research paper, report or thesis*. It can either be methodological, or substantive, with at least one ESS item used in **primary analysis**. Accordingly, the relevant universe does not include ESS based publications in other languages or substantive publications using European Social Survey keyword without primary data usage (e.g. publications that report replicating ESS items, secondary citations of ESS data and similar). Due to extensive coding of variables derived from the texts, English language is a necessary limitation. To the extent these publications coincide with global academic visibility, the database seeks to achieve the highest possible coverage of ESS-based **international publications**.

As in previous years, ESS based publications were identified by the **Google Scholar** indexing tool, which is believed to be the most comprehensive when it comes to covering various types of publications (see Nederhof, 2006; Mayr and Walter 2007; Ware and Mabe, 2012). The key phrase '*European Social Survey*' + '*round(s)*' or '*wave(s)*' was searched for in the

texts or abstracts to identify relevant publications. Those containing the keywords were reviewed case-by-case to confirm primary ESS data use. About 60% of the original Google Scholar hits are discarded through this process due to irrelevance or duplication. The exercise resulted in 537 newly acquired publications for the publishing year 2021. With the inclusion of the latest annual batch, the combined number of ESS based publications and presentations has reached **5966**.

The 2022 ESS annual bibliographic report includes 11 sections, most of them standard. Considering that the ESS has been preparing for mode switch in a couple of rounds, however, this year's report puts more emphasis on cross-rounds use.

Contents:

- 1 ESS use across academic communities
- 2 Research topics and theoretical approaches
- 3 Findings production across ESS countries
- 4 Determinants of the use of country data
- 5 The use of questionnaire sections
- 6 Patterns of rounds use
- 7 Analytical feedback
- 8 Informing policy
- 9 The use of ESS bibliographic app
- 10 Key takeaways

1 ESS USE ACROSS ACADEMIC COMMUNITIES

1.1 ESS based academic and non-academic publishing

European Social Survey is a **multi-purpose comparative survey**, designed to be repeated at regular intervals to support monitoring and modelling of societal change and facilitate the studying of sub-groups. It was designed to provide high-quality longitudinal comparative data to a number of academic communities and support empirical analysis of societal phenomena in a variety of scientific fields.

The success of any scientific infrastructures' academic mission is best reflected in the number and scope of academic publications generated by it, making this aspect one of the key performance indicators for European infrastructures (ERICs). Figure 1 presents the standard summary chart of **ESS international publishing**. With the 2021 publishing year added, the overall number of ESS based publications identified via Google Scholar has reached 5966, with 3279 of them being articles in peer-reviewed journals.



Figure 1: ESS English language academic publishing in the 2003-2021 period (Google Scholar)
(* new search algorithm applied from publication year 2018)

As noted in previous reports, the large share of **journal articles** is due both to their actual prevalence, being the most prestigious type of academic output, as well as their better accessibility in publication searches. Nonetheless, from the perspective of different target groups documenting **books, chapters** and student **theses** also provides important feedback, as do working and conference papers and particularly reports, i.e. publications sometimes referred to as **grey literature** (research materials produced by organizations outside of the traditional academic sphere). These may become even more relevant with ESS being subject to the ESFRI evaluation in 2023 where attention to other types of publications was explicitly highlighted (ESFRI 2018).

Considering access issues with most non-journal types of publications, it can safely be assumed that the actual number of ESS-based English language publications is even larger, particularly in the category of books, chapters and theses, while the coverage of international journal articles is reasonably comprehensive. There is also the additional universe of **national language publications**, which are not included in this report, but are to some extent captured by the self-completion feature of the new ESS online bibliography (about 18% of publications in the combined ESS online bibliography are in non-English languages).

1.2 Disciplinary profile of academic users

ESS is a pan-European survey infrastructure designed to provide data to a number of academic fields and be a free vehicle for special topics for international research teams. According to the Blueprint, ESS aimed at a clientele in a broad scope of social science disciplines: political science, sociology, social psychology, mass communication, economic sciences, modern social history and social anthropology (ESF 1998). This section identifies ESS main user groups across academic domains, using **journal disciplinary field** as a proxy measure (Figure 2).

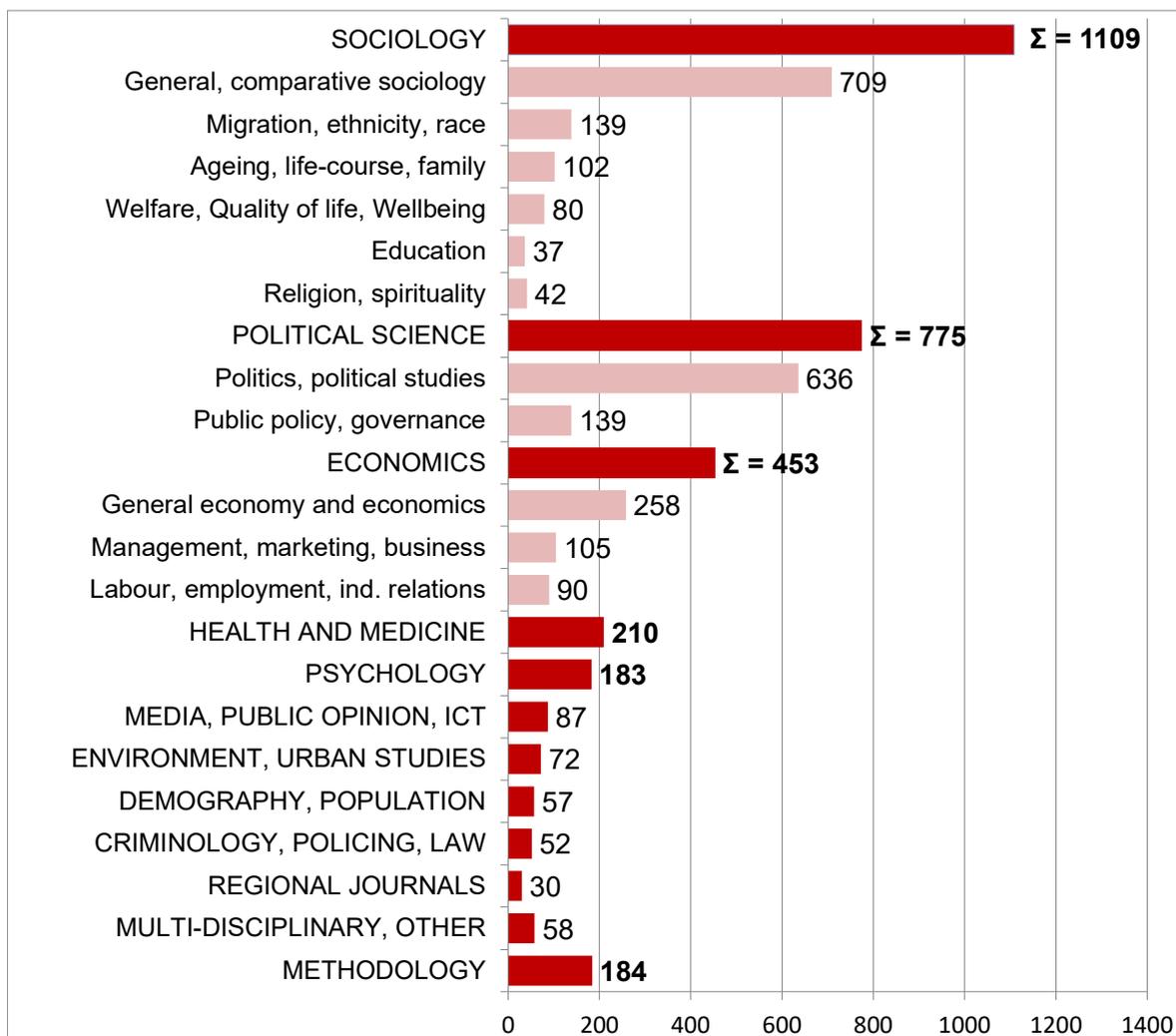


Figure 2: ESS outreach into academic fields in the 2003-2021 period, based on journal typology (N=3270)

There are **six scholarly fields** where ESS based analyses appear most frequently, most notably *sociology* (33.9%), *political science* (23.7%) and *economy* (13.8%), followed by *health & medicine* (6.4%), *psychology* and *methods* (both 5.6%). The picture suggests that most academic audiences that ESS creators were primarily targeting when designing the questionnaire have been reached. In addition, a number of narrower academic communities are continuously being added to the picture through rotating modules (e.g. criminology, medicine, environment). The general structure of user groups is to some extent contextually determined, reflecting the size of European and global academic communities across domains, but also ESS questionnaire content and its relevance for various fields of research where ESS can find almost endless potential of expansion into new academic sub-groups.

1.3 ESS data community

Studies show (Kern 2015) that for reasons of trust, relevance and convenience many users return to a dataset as part of their long-term analytical strategy, forming a **data community**. Considering the importance of data communities for the accumulation of scientific knowledge, this report takes a closer look at patterns of returning authors who represent the group of loyal users. Studies show there are various reasons why authors return to a particular dataset (Koesten 2017; Rusbridge 2010; Rumjaun 2020) and **teaching** carries a particular relevance as the range and type of a datasets choice is usually predetermined by researchers' affiliation to disciplinary and data communities through the process of social learning. Often the knowledge of and preference for certain survey programmes is initiated early on in an academic career when students are introduced to one or more large survey programmes during their education in empirical social research (Friedrich 2020).

ESS archive data show a beneficial picture in this respect. Out of 182,778 registered users around two thirds are students, one quarter academics (faculty/research or PhD), and just under 10% other (typically non-academic) user types (Kolarz et al., 2017). ESS also holds regular training seminars and created online teaching tools (EduNet). These numbers suggest ESS is a familiar data source among future researchers in relevant academic communities and its discoverability later in their career is hardly an issue.

In addition to the ESS archive data which refers to data users in general, this section focuses on published analysts or findings producers, i.e. data users whose engagement with ESS data results in published academic research. All 5966 publications were examined for **repeat (co)authorships** which, indirectly at least, suggest authors' loyalty to the ESS datasets. There are altogether 12193 authorships in the 2003-2021 Google Scholar publications, consisting of 6095 unique authors. Out of these, 2084 (34.2%) (co)authored more than 1 ESS publication (Table 1).

Table 1: ESS repeat authorships in the 2003 - 2021 publication period

	N	% all	N PhD	% PhD
1 (co)authorship per author	4012	65,8	62	54,4
2 (co)authorships per author	972	15,9	22	19,3
3 – 5 (co)authorships per author	778	12,8	18	15,8
6 or more (co)authorships per author	333	5,5	12	10,5
	6095		114	

There are, on average, two authorships per author. If taking three authorships as an ad-hoc margin, ESS has a fairly significant base of about 1100 'loyal' authors that could be characterized as its core 'data community'. As noted, ESS archive statistics clearly demonstrates the large extent of ESS **data use in teaching** and for PhD works. The disciplinary learning thesis is indeed reflected in findings production figures as the share of repeat authors from those who based their PhD on ESS data is even larger than generally. In the ESS Google Scholar bibliographic database there are 114 authors that wrote a doctoral degree work (i.e. an indicator of an academic career) using ESS data, out of which 52 (45.6%) have co-authored another publication. If we exclude recent PhDs who did not have time to publish yet and only observe 67 PhDs completed until 2018, the share is 53.7%, supporting the premise of student data use experience being carried over to researcher experience

This shows the importance of making and sustaining the ESS as a teacher and student friendly infrastructure, particularly through ease of use and richness of resources. To better achieve this goal, ESS has initiated a small **study under a related SUSTAIN2 grant**, which will, among others, be informed through this task, mainly by identifying specific groups of target users, such as current and former PhD students, teachers, non-academic users, repeat-authors and similar, using purposeful and convenience sampling approach. The goal of the study is to identify gaps in user awareness of existing ESS resources and secondly, identifying additional user needs, particularly for entry level users, i.e. those interested in using ESS but who lack more elaborate statistical skills. The study will take place in 2023.

At the same time, considering the importance of teaching for producing loyal dataset users, ESS should put maximum effort into reinstating two very important online resources and functionalities that were appreciated as teaching and learning tools and were (temporarily) lost in 2022 - online data analysis software (to replace Nesstar) and EduNet.

2 RESEARCH TOPICS AND THEORETICAL APPROACHES

Being a multi-purpose comparative survey, the ESS has no single primary application, but contains a **diversity of topics and theoretical approaches**. Rather than seeking to advance one specific model, multi-purpose studies enable studying a multitude of crucial social processes (Hakim, 1982). Being dedicated to the collective interest of their colleagues, surveys such as ESS therefore need to be aware of the varied interests and developments of the field (Kim et.al 2006). ESS core questionnaire was designed with an aim to be relevant for a variety of thematic domains, while rotating modules are a dedicated vehicle to address research gaps in specific domains and to promote ESS use in new domains.

The structure of analysed topics reflects both the content of the ESS questionnaire, the size of ESS academic user groups, as well as areas where currently key societal challenges emerge. Figure 3 presents the picture of research topics most frequently investigated by ESS based authors. Among the 5966 publications, 87.2% (5203) are **substantive** and 12.8% (763) **methodological**.

Having included a large number of popular political science concepts and indicators in its core module, it is not surprising that **politics** remains the most explored subject in the ESS based academic literature. Political topics are present in **23%** of ESS publications (each publication is coded for up to two topics). In terms of subject matter the most numerous references are to *political parties*, *political trust*, *political elites*, *political culture*, *political responsiveness*, *political efficacy*. In the recent years, a large number of studies focus on

(right-wing) political populism and the determinants of its support, a reflection to societal events such as the Trump election and Brexit.

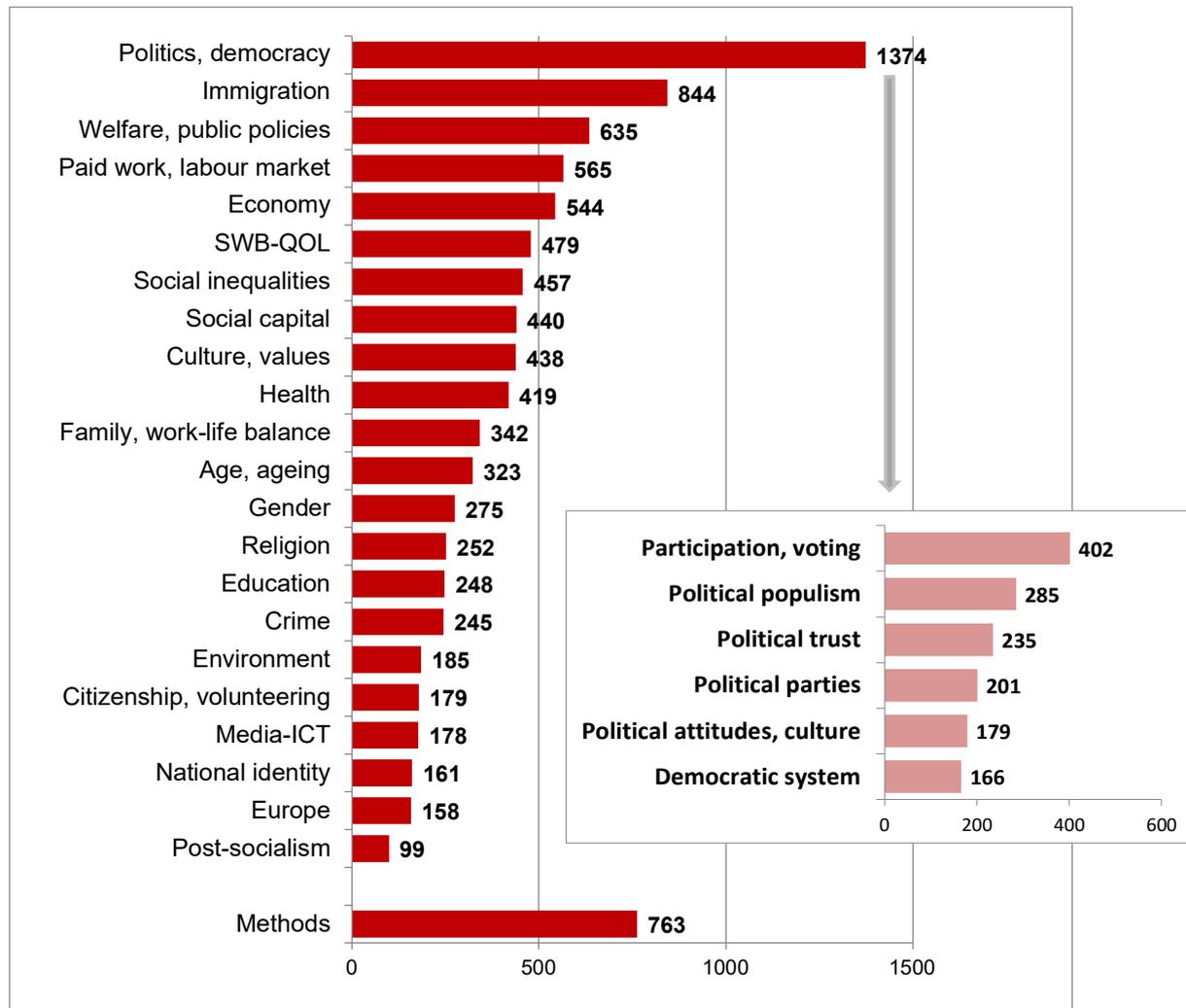


Figure 3: Number ESS publications addressing individual topics (up to two topics coded per publication, 2003-2021, (N=5966))

The second most explored subject is **immigration** which continues to be one of the most pressing social issues facing European countries and the topic where ESS datasets figure prominently in comparative survey research. This is due to a variety of factors such as larger samples, frequent measurements and a large number of relevant indicators. Many analysts use ESS to test and develop theories in the area of inter-group relations, originating largely from psychological research, e.g. the *intergroup contact theory*, the *social distance theory* or the *group threat theory*. Many authors address the subject of integration of immigrants into host societies, e.g. the *theory of (segmented) assimilation*, *acculturation theory*. Another widely explored concept is *multiculturalism*, a non-assimilative approach to cultural diversity, in relation to national identity. These topics are present in **17%** of ESS publications.

Family research is strongly connected to the Family & Work modules and focuses primarily on *work-life balance*, enriching a long tradition of research on attempts to manage paid work along with family and other parts of life. Closely related concepts are *gender roles*, *gender inequality* and *gender discrimination* which are used to investigate gender-based

disparities, particularly in the area of education, paid work and household work. This area will surely expand in the future years with the forthcoming round 10 new module on gender inequalities. **Demographic issues** are a linked area of research, particularly the issue of *fertility and fertility decisions*, often within the framework of the life course perspective. Another issue related to demographic transition is the process of **ageing** and its societal implications for demographic structure, workforce, party membership, ageing electorate, welfare sustainability and others. Combined, these issues are present in **16%** of ESS publications.

In ESS-based investigation of **well-being and health**, authors typically explore well-being determinants such as *age, illness, immigration status, peer comparisons, welfare regime, social capital and networks, trust levels, economic resources* and others. A much explored concept in the well-being area is socially produced inequalities in health. Well-being and health are present in about **15%** of ESS publications.

Yet another big topic is **culture and values** where analysts typically investigate the mechanism of *social norms* across a number of disciplines and subjects, such as gender and family norms, fertility norms, norms of volunteering, norms of political engagement, work and employment norms, tax morale, as well as transmission of norms, informal control, peer pressure and other. *Cultural change* is another major area of research, e.g. the process of individualisation and the post-materialism theory. **Religion**, a sub-area of cultural change research, is theoretically dominated by the *secularization theory*, a notion that as societies progress and modernize religious authority diminishes in all aspects of social life and governance. These topics are present in about **12%** of ESS publications.

Among the prominent topics are **welfare** (present in **11%** of ESS publications) and public policies, particularly among northern European authors, where the most explored concept remains the Esping-Andersen's *theory of welfare regimes*, which postulates that existing welfare regimes act as socialising forces that reproduce the demand for redistribution that legitimises them. Another often referred to concept is *welfare chauvinism*, a belief that immigrants are "free-riders" who receive social benefits without having contributed adequately via taxes. Publications addressing this topic are strongly based on the Welfare module.

A further popular area of research is **citizenship and social capital**, exploring the association between generalized trust and many features of liberal democracy, such as functioning of democratic institutions, increased levels of citizens' participation and better performance in several policy areas, social cohesion and general 'societal health'. These topics are addressed in **10%** of ESS publications.

In the area of **paid work**, the topic present in **9%** of ESS publications, the most salient concept is the theory of *human capital*, conceptualising education and its individual and social role. Much explored concept in the area of industrial relations is *union membership*, a collective bargaining mechanism that increases the bargaining power of employees, where analysts investigate its macro and micro determinants.

Finally, the topic of **social inequality** is also among the most frequently explored, focusing on unequal distribution of income or wealth and interpreted in either functionalist or conflict perspective. The most popular concept remains *social class*, while other key theoretical perspectives include social exclusion or social marginalisation, as well as social mobility. These topics are addressed in about **8%** of ESS publications.

In summary, ESS is a particularly important quantitative data source for the areas of politics and citizenship, immigration, welfare, work–family balance, well-being, human values and social inequalities.

3 FINDINGS PRODUCTION ACROSS ESS COUNTRIES

The extent of findings production across ESS countries is an aspect particularly relevant for national founders (ESS GA) and national teams (NC Forum) and is measured by the number of academic publications (co)produced in individual countries. It should, of course, be kept in mind that ESS bibliographic monitoring only includes English language publications and therefore presents only part of the picture. It is, however, a rather relevant part considering the premium status of international publications, journal articles in particular, in academic evaluation exercises.

As presented in Table 2, 80% or 4801 of ESS international publications were co-authored by writers affiliated in 10 advanced **Western European** countries and the USA. This is not surprising as such ‘imbalance’ has been well noted in the literature. According to Zanotto et al. (2016) 24 high HDI countries produce 83.9% of global scientific outputs and 153 low HDI countries 1.9%. Nonetheless, there are 765 (13%) publications (co)authored by academics in **Eastern Europe**, which is a significant number. In fact, there is a tendency for a somewhat decreasing share of Western authors and a gradual increase in the Eastern European share in ESS authorships. This likely reflects an increasing number of East European member countries, as analysts usually explore their own region. Eastern European regions have the largest potential of participation expansion in the next decade, not just in terms of new countries joining the ESS ERIC, but also in terms of keeping their participation uninterrupted, which was often not the case in the past.

Table 2: Number of ESS international publications (co)authored by at least one author affiliated in a country, 2003-2021 (N=5966)

Country of affiliation	N	Country of affiliation	N	Country of affiliation	N
UK	896	Poland	167	<i>Australia</i>	49
Germany	783	France	138	Romania	44
<i>USA</i>	632	Ireland	132	Turkey	36
Netherlands	578	Israel	110	Lithuania	35
Spain	398	Hungary	107	Bulgaria	32
Belgium	376	Austria	94	Slovakia	30
Italy	351	Estonia	92	Cyprus	18
Sweden	349	Greece	83	Ukraine	19
Switzerland	227	Canada	77	Serbia	15
Norway	211	Russia	75	Iceland	12
Portugal	179	Czech republic	66	Croatia	16
Denmark	173	Slovenia	53	Latvia	8
Finland	168	Luxembourg	47	Albania	4
				Kosovo	2

With many global links ESS is currently establishing, the authorships map may further change in the next decade or so, with the probable growth of non-European contributors. If ESS

fields an EVS module this is likely to contribute to this effect as there will be a large number of shared items also with WVS, a popular global survey

4 DETERMINANTS OF THE USE OF COUNTRY DATA

As some authors have observed, unequal representation of countries in international surveys limits the generalizability of research results and makes them potentially biased by omitting atypical cases such as less-developed (low income) and non-Western countries (Kotczyńska 2014). Some countries tend to be over-researched, while only limited numbers of surveys exist for other countries, which biases our insights towards the prosperous parts of the world which enjoy a high quality of life (Goerres et al. 2019). The use of country data therefore shows **how well researched a country is** using ESS as the analytical basis.

Scientific use of national ESS datasets is of course the final aim of each national fieldwork action and the investment behind it. While the capacity of national academic communities to analytically exploit ESS data is limited by their size and general analytical skills, the international academic community, both European and global, can make the most use of all national datasets once they become part of the ESS cumulative data file. Table 3 presents the shares of **national data inclusion** for all countries that participated in at least one ESS round.

Table 3: Shares of country data inclusion in ESS international publications

	% 2003- 2021 (N=3922) *	% 2021 (N=453)*		% 2003- 2021 (N=3922)	% 2021 (N=453)
Germany	76.0	75.5	Greece	43.0	26.7
UK	74.6	73.0	Slovakia	40.0	33.6
Sweden	73.8	71.5	Italy	39.4	53.4
Netherlands	72.8	71.3	Bulgaria	32.6	34.3
Belgium	72.2	70.2	Cyprus	28.1	29.8
France	71.2	72.4	Lithuania	27.4	46.8
Finland	70.9	68.9	Luxembourg	24.2	15.0
Spain	70.9	67.1	Russia	23.5	24.7
Denmark	66.7	47.7	Israel	22.2	21.9
Portugal	65.9	64.7	Ukraine	21.7	13.9
Ireland	64.8	64.0	Iceland	20.8	30.2
Norway	64.6	60.5	Croatia	16.1	22.7
Poland	63.0	61.8	Latvia	13.8	17.2
Switzerland	59.4	59.2	Romania	12.3	7.5
Hungary	59.4	60.3	Turkey	11.0	7.9
Slovenia	59.0	58.7	Serbia	5.5	8.2
Czech R.	55.8	58.1	Albania	4.4	4.9
Austria	52.0	62.5	Kosovo	4.0	4.9
Estonia	50.4	54.1	Montenegro	2.7	5.1

* The population of downloaded ESS publications with full texts where country-data inclusion can be established

The inclusion shares for the overall period range from 76% for Germany and less than 3% for Montenegro, a gap that obviously renders Germany a far more researched country than, for example, Kosovo or Romania. The main explanation for the large discrepancies in national data inclusion is the **number of rounds fielded**, which is usually related to a country's general level of development and funding issues that may arise from it. Among the 38 countries that took part in the ESS at least once in the first 9 rounds, only 15 participated in all waves and 10 in four waves or less. Generally speaking, countries that participated in all or almost all rounds have the highest rates of inclusion and countries that fielded fewest rounds the lowest, due to data being absent from ESS cumulative datasets.

The fact that participation frequency is quite directly reflected in usage shares can be seen by comparing the overall and 2021 inclusion rates. The table reveals examples of countries whose inclusion is fluctuating up (blue colour) or down (red colour), depending on their **participation cycle**. Currently, Denmark, Greece, Slovakia, Luxembourg and Romania are experiencing a decline in data inclusion due to non-participation in the recent period, and the opposite is true for the blue countries. This gaps are, of course, translated into gaps in findings production both at the national level and overall, with countries being absent from the comparative picture.

Exclusion of individual countries – non-preventable and preventable reasons

Nonetheless, despite the key role of participation, there are other factors that determine the inclusion of national data. This can best be seen in cases of countries that participated in a similar number of rounds, and yet their inclusion rates may differ almost 20% (e.g. Germany vs. Slovenia). This annual report explored reasons behind such gaps in more detail as they could be relevant for various ESS bodies, most notably CST and NCs. Particularly so if 'preventable reasons' are identified. The small extra study was feasible because bibliographic text coding includes a variable on **reasons for exclusion of individual countries**, despite their data being present in the cumulative dataset. The variable is only coded when authors explicitly mention reasons for exclusion and so far 1139 such explanations were found in publications. Based on their review, five typical motivations were identified (Figure 4).

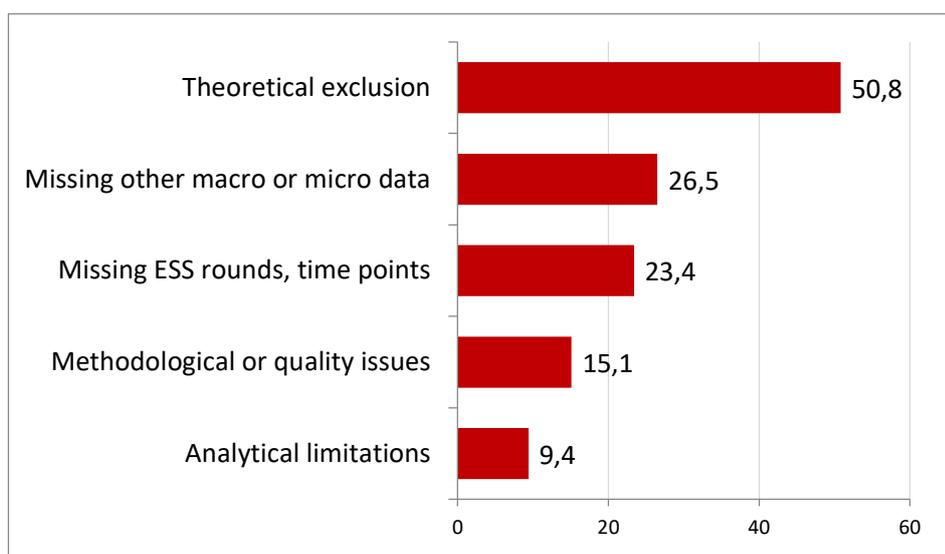


Figure 4: Explicitly stated reasons for excluding individual countries (up to two reasons coded per publication, 2003-2021, (N=1139))

As could be expected, the most prevalent reason is **theoretical exclusion (579 cases)**, which is likely implicitly present in the majority of publications where only a subset of countries is present. Authors often include homogeneous groups of countries (EU members, Western Europe, Nordic, post-socialist etc.) based on theoretical considerations or their own familiarity with them. In practice a large majority of authors come from Western European countries which is often reflected in their preference towards selecting other western European countries to address shared issues such as immigration related problems, political populism or welfare chauvinism. This element of non-inclusion is scientifically based and there is not much space for any ESS intervention.

The second most frequent reason is **missing macro or other micro data (302)**. At least a third of ESS publications use macro and micro sources along with ESS data (see section 8) and a similar share include multilevel analysis. In a number of such cases countries get excluded because other indicators are not available for them from non-ESS data sources to specify the model. This again is not an issue that ESS can affect with its actions.

The third most frequent reason for exclusion is **skipping ESS rounds (267)**. Authors who use multiple rounds for pooling or cross-time examination often drop countries that are not present in all or a significant number of measurements. This favours continuous participants and punishes those who skip rounds, the latter typically coming from non-OECD countries. This reason for exclusion is, at least indirectly, a preventable one and ESS ERIC has been working in the direction of eliminating it by liaising with individual countries and trying to ensure longer-term funders commitment to fielding rounds.

The fourth reason relates to **quality issues (172)**. This is probably the most preventable one or the one most directly linked to actions of the CST team and NC teams and was, for this reason, explored in a more detailed way. The publications stating this reason were qualitatively reviewed for specific quality problems and four clusters of issues emerged:

- **Missing items in individual countries.** While some authors fail to specify exact items and merely mention that ‘relevant’ indicators are missing, many others are more specific, resulting in the following list of items one or more countries failed to collect (properly): ISCO codes; household income; individual-level income; membership in voluntary associations; ‘value scales’; denomination; ‘question that is part of a composite measure of social networks’; norms against childbearing in cohabiting unions; financial strain questions; non-communicable diseases; physical health; depressive symptoms; membership in trade unions; data on self-employment; question about internet use; family reunification; asylum policy; voting in the last election;

- **High item nonresponse.** When specified, these variables include: ‘questions related to values and beliefs’; father’s education; participation in voluntary associations; CES-D 8 depression scale; denomination; immigrants’ social rights variable; left-right self-placement; social distance measures; social class variables;

- **Other questionnaire-related equivalence issues** include: different coding of income variable; deviations in the wording of public service questions; questions on participation in voluntary organizations not comparable with other countries (not asked as multiple response questions); differences in the measurement of the income comparison variable; national education categories could not be recoded into the international standard format; scales differ from the ESS standard; errors related to the question on cancer status;

measurement equivalence tests suggests items not comparable across some countries; filter error in the interviewer phase;

- **Other equivalence-compromising issues:** missing information on the design weight; no sample weights available; dubious that not a single respondent opted for the ‘they should never get the same rights’ category; the number of respondents who indicated they had been born in Russia suspiciously large; lack of information on language proficiency (interviewer questionnaire); interview date or unique interviewer identification number not recorded; sample design not signed off; ‘major data quality problems’; the administration of the survey experiment seems not to have worked well; split ballot design used; data gathered in a much later period and therefore not comparable;

Some of these issues appear multiple times but for reasons of clarity only one occurrence was documented. We can assume that the large majority of these errors were *self-detected by the ESS*, i.e. authors detected them through the extensive ESS documentation and alerts on deviations, which highlights the importance of transparency for sound analysis.

The final cluster or reasons relates to **analytical limitations (107)**. These are again issues where ESS can mostly not intervene, but are presented to further illuminate the reasons behind the exclusions of individual national data. The review of 107 publications identified three clusters of issues:

- **Sample size issues**, i.e. insufficient number of eligible observations in a country or subgroup for meaningful analysis. Cases include: national samples under 1,000; less than 2000 valid cases for waves 1-5; low share of temporary contracts in the workforce; low share of part-time workers; of respondents hampered in daily activities; of respondents in some NUTS 1 regions; of self-declared radical right voters; of various categories of immigrant respondents; of respondents interviewed in October; of mothers working nights; of medical professionals; of single mothers; of party supporters; of cohort members; of accounting professionals; of respondents with pain conditions; etc.

- **Other data-related issues:** discrepancy between ESS data on unionization and that of OECD; mismatch in the relative immigrant shares between ESS and EUROSTAT; multi-collinearity problems in the human values measurements; country’s extreme values affecting results; country using own regional classification instead of NUTS; no sub-national level of NUTS (countries with a single NUTS2 region); Cronbach’s alpha of the scale developed to measure perceived discrimination too low; measurement invariance of the latent constructs violated; due to large population the country weights very highly; lack of variation on the citizenship variable (all or almost all respondents coded as citizens);

- **Societal characteristics** making an individual country incomparable: compulsory voting regime; peculiarities of political and social environment; institutional structure vastly different from other West European countries; difficulties of pre and post-Unification data collation (Germany); peculiarities in immigration flow; countries without a far-right party; difficulty in operationalizing migrant background; political and military instability that prevented reliable coding; outlier with regard to population aging;

In sum, the review reveals a variety of analytical situations where a country or a subset of countries is deemed non-relevant, due to various combination of data issues and/or societal characteristics. The implication is, there are always be limits to the relevancy of national data, depending on analytical needs, but there will also be quality issues which, if not prevented, should continue to be documented for analysts to make informed choices.

5 THE USE OF QUESTIONNAIRE SECTIONS

ESS core questionnaire was created by the ESS central team and external thematic experts who sought to include topics that are of enduring interest for most researchers in the social sciences (and beyond), along with a wide range of socio-demographic variables. On the other hand, rotating modules represent a bottom-up element in the ESS, making it wide open to the scientific community. They are ESS ‘project’ sections designed to fill research gaps in various academic domains. The questionnaire is therefore a compromise between innovation or **adaptability and longitudinal stability** (Schnaudt et al., 2014, Lindstrøm 2017). Its combined content, from individual items, blocks of items and modules, frames users’ thematic possibilities, i.e. the scope of topics and theoretical approaches, types of academic communities engaged and similar.

From the **survey management** perspective, documenting the use of questionnaire sections represents a valuable feedback on the popularity of various questionnaire parts, from modules to items. This may be essential when making questionnaire revisions, either the core part or in case of repeat rotating modules. While usage is not the sole criterion for dropping or revising items or sections, it is certainly an essential element of their evaluation as unused items or sections will not result in scientific findings and will therefore not fulfil their intended mission or return the investment of skill and funds.

This annual report presents the use of ABC core part and rotating modules, while the detailed statistics on the use of all ESS individual items is available in the Appendix 2 (*Item usage report*). The use of questionnaire sections is based on 4047 downloaded publications where individual items could be identified. The minimum criterion for documenting the use of a section was at least one item from it found in a publication. Being fielded every two years, the **A, B, C core part**, which is not shown in the chart below, has always been the most used attitudinal section of the ESS questionnaire with **84%** (3415) of downloaded publications using at least one of its items. The conceptual relevance of this part for a number of scientific communities, as well as its biannual fielding frequency which results in a continuously refreshed time-series and the potential to pool samples, make ABC core the most omnipresent part of the questionnaire in ESS-based analyses.

On the other hand, **rotating modules**, the ‘project’ sections of ESS questionnaires, are characterized by much more uneven usage. This can be seen in *Figure 5* which shows the overall use of rotating modules and Portrait Values Questionnaire, the ESS values battery which is also part of the core and is used in 14.3% of publications. In terms of academic publishing, the modules can be divided into the more or less popular ones and the overall picture has remained fairly stable during the last decade. The four **most popular** ESS modules are *Immigration*, *Work & Family*, *Welfare* and *Wellbeing* with roughly between **250-500** publications. *Citizenship*, with its highly popular battery of items measuring participation in voluntary organizations, had a similar usage potential, but has gradually slipped away this group as it has not been repeated since 2002 and its data is now too old to attract further analysis.

The second group consists of modules that are used to a more moderate extent compared to the first group with roughly between **50-100** publications. Among these the most popular are *Democracy*, *Health Inequalities*, *Climate Change* and *Timing of life*. Considering that Climate change is a relatively recent module and that Health inequalities module will soon be repeated they may have the potential to gradually migrate into the

most used group. This is unlikely for the rest of the modules however, which have a narrower academic reach and are being used by smaller, more niche academic audiences.

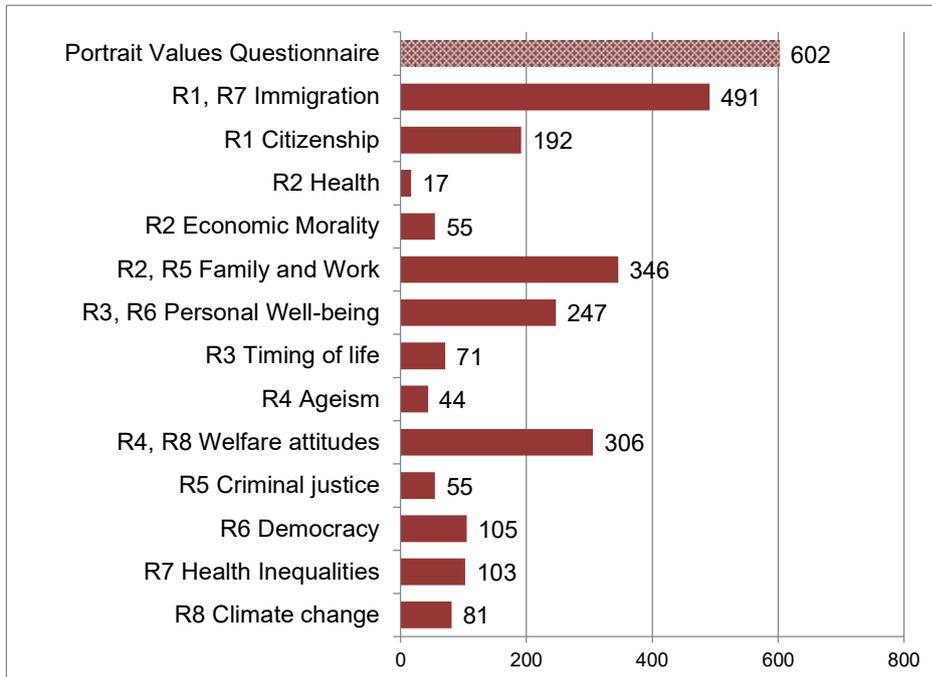


Figure 5: The overall use of ABC Core and rotating modules (2003-2021, N=4047)

To obtain a fresh snapshot of usage, *Figure 6* presents the picture of modules use for the most recent complete publishing year, which is **2021**.

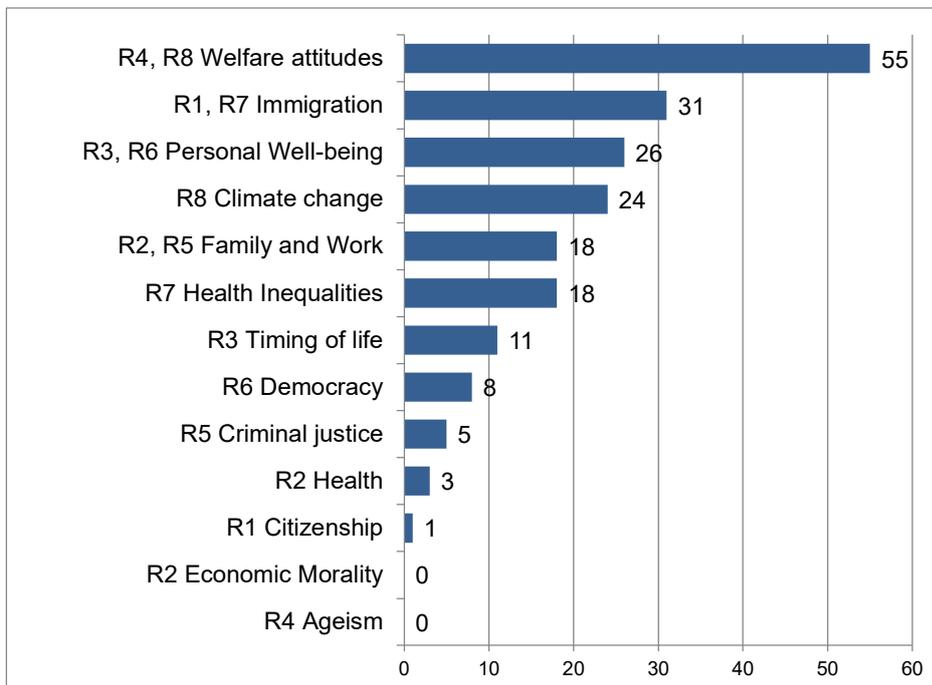


Figure 6: The use of rotating modules in publication year 2021 (N=471)

The two modules that appear most frequently in last year’s publications were *Welfare* and *Immigration*, both of which were recently repeated and received the added ‘boost’ of fresh data and the possibility for cross-time comparisons. Four more modules, *Well-being*, *Climate change*, *Family & Work* and *Health inequalities* were also used quite strongly. The constantly

strong usage of these modules demonstrates their continuous relevance for academic audiences, as they address thematic areas with wide academic and policy salience.

Finally, Figure 7 shows the shares of ESS publications using **core-only items** or **module-only items** across time to detect any changes in the relative analytical ‘weight’ of both questionnaire parts. Module-only use here refers only to the absence of ABC attitudinal core items and not to the absence of F core (demographic) items, which are almost universally present in publications.

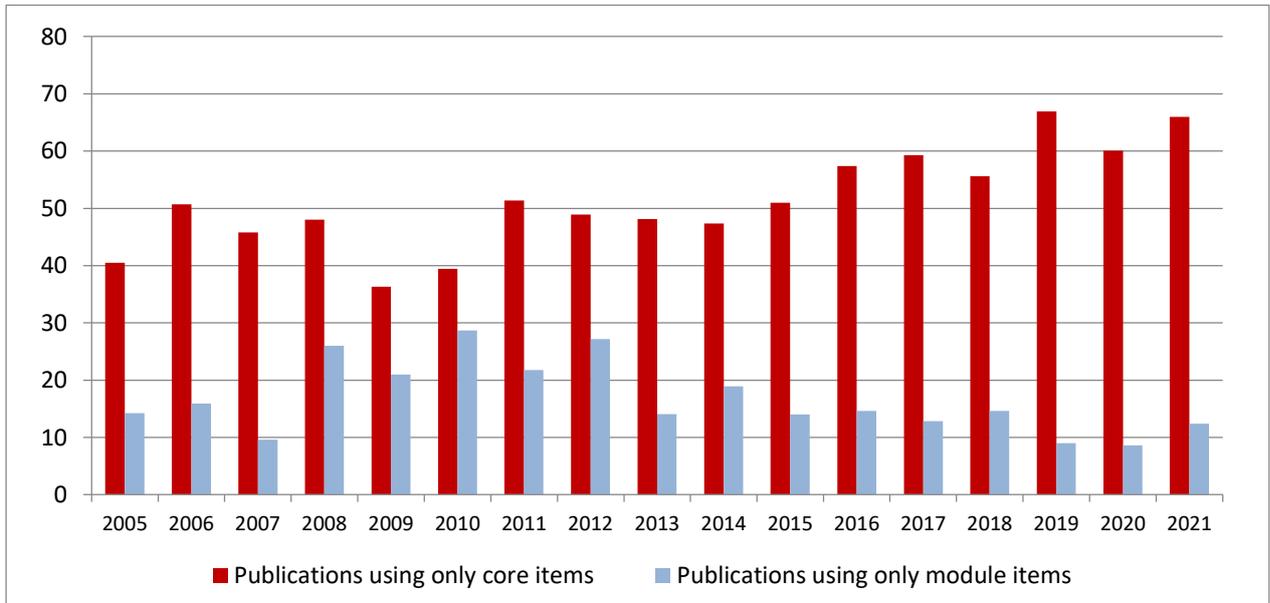


Figure 7: Publications using only Core or rotating module items, 2003-2021, (% shares, N=4203 downloaded pubs)

There are in fact notable fluctuations in core-only and module-only use in the 15 year publication period. The shares of publications using only rotating modules are largest in the 2008-2014 period, which is when *Work & Family* module was most prominent, having been repeated twice. Among the ESS a popular modules this is the one which is least connected to the ABC core concepts and is used as a stand-alone data source almost in 70% of cases. However, it has not been repeated for more than a decade now and its publishing presence is currently on the decline. All other modules are also used as stand-alone sources to a various extent, but much less so than *Work & Family*.

Generally though, there is a trend towards a growing share of **core-only publications**, whose share was roughly between 40-50% by the year 2015, while in later years it fluctuates between **50-60% or more**. This is likely the consequence of a growing trend of multiple rounds use (see next section) which focuses on the attitudinal core.

6 PATTERNS OF ROUNDS USE

Rounds usage statistics shows the dynamic rounds use in publications and had a remarkably steady pattern until the Covid pandemic delayed the ESS R10 fieldwork. It provides an insight into the **process of data ageing** which both increases and decreases its analytical value, depending on analytical aims (cross-section or corss-time).

In the current annual report, data on the use of individual rounds was obtained from 4141 downloaded publications where specific rounds could be identified. *Figure 8* presents

the cycle and level of use of individual rounds, with each new dataset reaching its peak in academic publications about 4-5 years after being published.

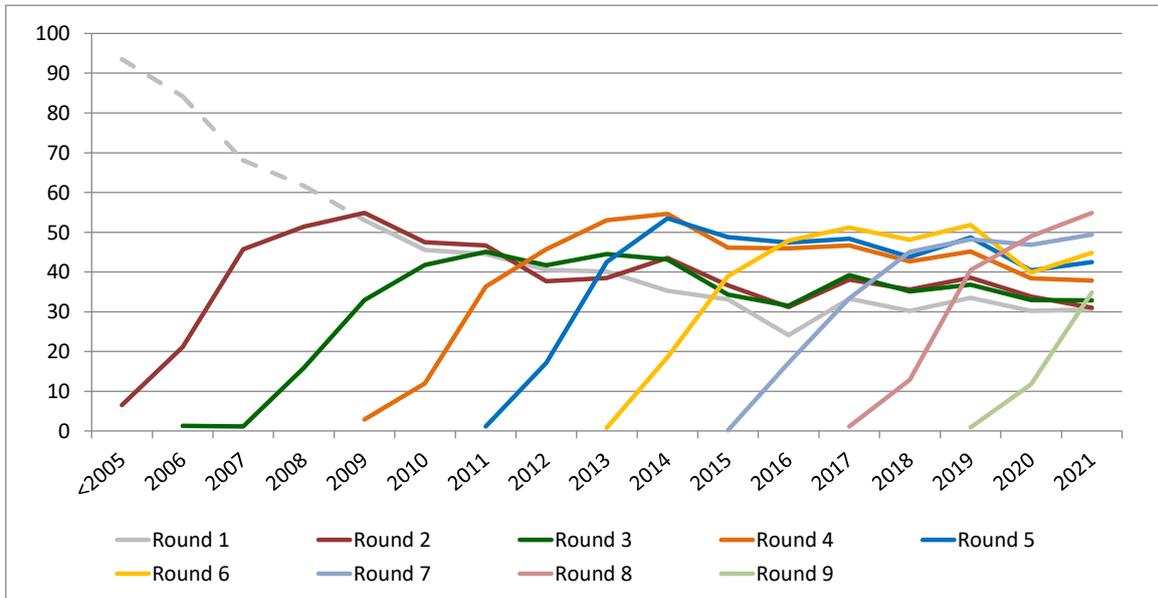


Figure 8: The cycle of rounds use in ESS publications, 2003-2021 (% shares, N=4141)

After the peak, the usage of each round begins to stabilize at about 35-55% as previous rounds continue to be used quite strongly due to the popularity of cross-rounds use (Figure 9). In 2021, the latest publication year observed, more than 51% of publications used multiple ESS rounds.

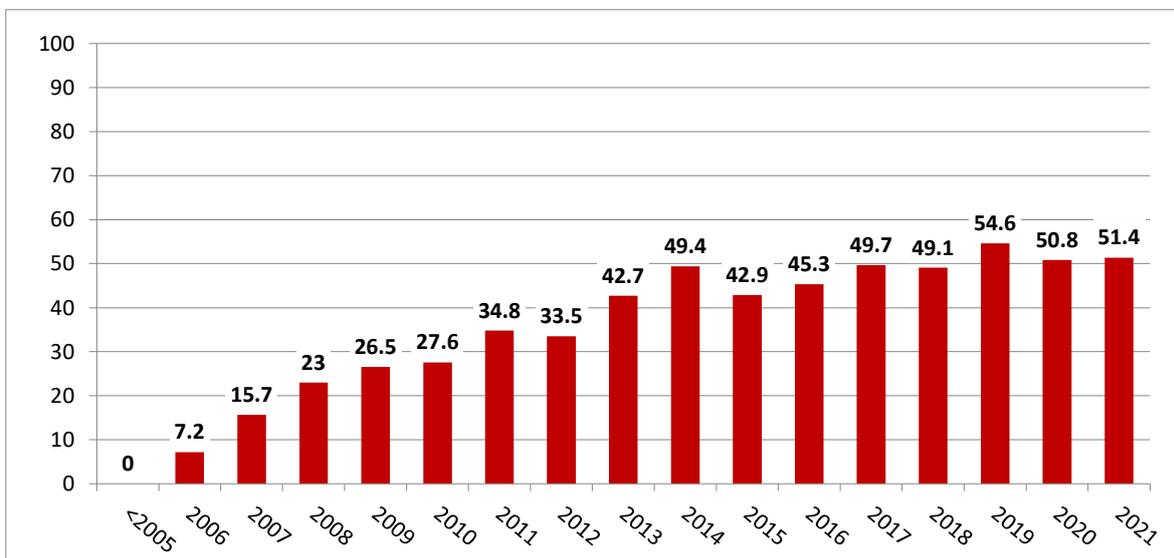


Figure 9: Multiple rounds use in ESS publications, 2003-2021 (N=4137)

As ESS prepares for the **imminent mode switch in round 13**, the so far mostly ‘unproblematic’ practice of widespread cross-round use becomes more risky, with the introduction of **mode effects**. For this reason the report pays special attention to the patterns of multiple and single rounds use to help inform the ESS bodies on the likely effect of mode switch on secondary analysts due to increased validity risk.

Figure 10 shows the distribution of multiple-round use in ESS publications for the last publication year (2021). Four or more rounds were used by 38% publications, and more than 22% of publications in 2021 used 8 or 9 rounds, which indeed indicates wide popularity of this strategy. **Growing cross-rounds use** is the result of the several factors, such as growing academic and social salience of topics which are mostly core-based (e.g. political populism and immigration), the analysis of additional sub-groups which require pooling samples across rounds and the growing attraction of cross-time analysis as ESS time-series grows longer and modules are repeated.

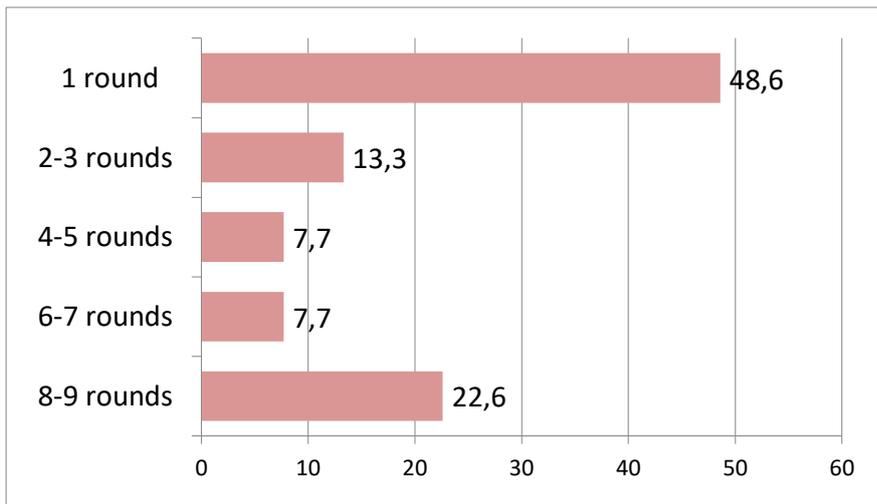


Figure 10: Multiple rounds use in ESS publications 2021 (N=481)

While enlarging samples by using multiple rounds may favour more recent datasets, which are more comparable in terms of social context and surveyed population, the value of earlier rounds will continue to increase in cross-time analysis.

Figure 11 shows **analytical rationales behind the use of multiple rounds**. The motivations behind merging rounds were coded for a total of 1109 downloaded publications as this code was introduced later than other bibliographic codes. Nonetheless, the number is large enough to obtain a robust estimate.

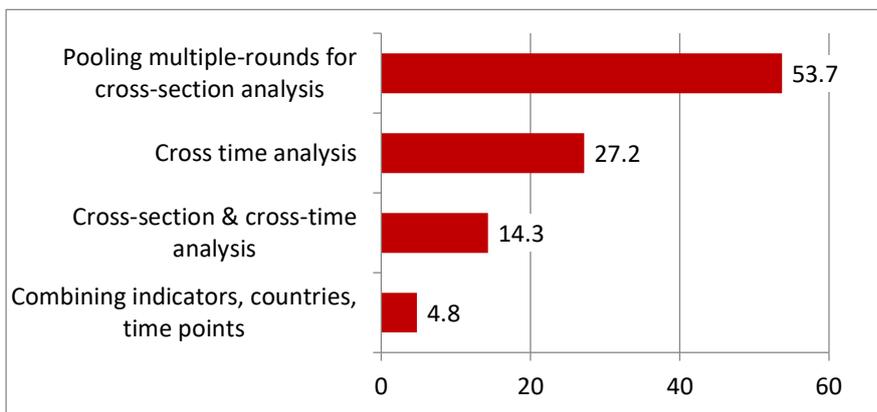


Figure 11: Reasons for the use of multiple rounds use in ESS publications 2003-2021 (N=1109 publications coded for reasons)

Multi-purpose surveys are designed to be repeated at regular intervals and allow monitoring and modelling of societal change and studying of sub-groups by pooling cases (Kim et.al 2006). Merging several years' data is a popular design to either achieve a sufficiently large sample to study a minority group, or to permit the use of detailed classifications, i.e. occupation (Hakim, 1982). Indeed, as can be seen from the chart, the most widespread

reason for using multiple rounds is **cross-section analysis** whose main goal is increasing sample sizes for the general populations, but most often for specific **sub-populations**. This strategy was present in 70% of observed publications. The second major motivation is to carry out **cross-time analysis**, a strategy present in 40% of publications, with 15% of publications falling into both categories.

To explore the most popular strategy of pooling rounds more closely, Table 4 presents examples of subgroups analysed in 2021 through the use of multiple rounds. The selected publications are those for which sub-group sample sizes was explicitly available and where analytical focus was on **niche subgroups**, rather than large sub-population such as 'Western Europe', 'Nordic countries', 'countries that participated in all or a subset of rounds' etc. The latter cases in fact represent the majority of cross-section cross-round use and often include up to 300.000 cases.

Table 4: Examples of specific sub-groups analysed using pooled samples across rounds in publication year 2021

Examples of analytical subgroups	ESS rounds used	Group's sample size
<i>Immigration-related groups</i>		
Female immigrants of working-age who immigrated after the age 14	R1–9	8,431
Female migrants aged 20 to 60 from Africa, Asia and Latin America	R1–9	3,146
First-generation immigrants who were older than 30 at the time of their migration	R1–8	5,030
Second-generation Muslim and non-Muslim minority groups whose parents were born in the same foreign country	R2–9	4,687
Respondents living in Western Europe, identified as Muslim, born abroad or had parents born abroad	R1–8	2,973
Individuals who responded “yes” to the question, “Do you belong to an ethnic minority group?”	R1–7	5,149
<i>Age cohorts, generations</i>		
Individuals born between 1930 and 1989 and who had left home between age 15 and 30	R3, 9	56,979
Cohorts born 10 years before and 10 years after school reforms	R1–9	45,508
Women from the Silent Generation, born before 1949, and the Baby Boomer generation, born between 1950 and 1965	R1–8	1,412
<i>Miscellaneous</i>		
Members of political parties	R1–5	10,378
Currently married or cohabiting high-educated working-age women older than 24 and younger than 66	R1–3	9,659
Individuals hampered in daily activities by any longstanding illness, or disability	R1–7	18,924
Individuals aged between 20 and 50 years old who reside with their minor children (Ireland only)	R3, 5, 8	1,830

As indicated by the examples above, the topic where the use of subgroup is particularly prevalent is immigration, often in connection to the labour market characteristics and gender issues. Besides various groups of immigrants, there are numerous other subgroups that analysts seek to enlarge by pooling cases across rounds, such as age cohorts, party

members, occupations etc. Often a large number of rounds is merged to maximize the group's size, in particular if the analysis is focused on one country.

The inverse analytical strategy is present in publications **using a single ESS round**. This group too contains relevant information in the light of mode switch, indicating analytical situations where the change is not likely to cause major problems. To explore typical rationale for single round use, all relevant 2021 publications were reviewed. Clearly the most common general reason to use a single round is **thematic**, i.e. many publications address a topic covered by individual ESS rotating modules. This strategy may also incorporate using two rounds, as some modules have been repeated twice so far.

Yet apart from wider thematic reasons for the use of single ESS round there are other factors influencing the selection of a particular round. The review revealed six clusters of reasons:

- **Data recency** (also in relative terms). Using the most recent available round is the default choice in many publications that are based on core questionnaire, but sometimes in relative terms, e.g. using second most recent round as 'not all data from Round 9 had been released';

- **Round specific individual items with key role in the analysis**. Rather than focusing on a rotating module theme in a wider sense, these publications seek just one or a few key items. Examples: items on gender role attitudes; the basic income item; the measurement of online activism item; the item on employment ban for asylum seekers;

- **Country coverage issues**. Analysts seek ESS round(s) where a particular country participated, or where the coverage of relevant countries was optimal. Examples: Participation of Serbia, of Ukraine, of Latvia; using R6 rather than R8 to maximize the number of countries in the sample; using the 'most recent round with the highest number of post-totalitarian countries';

- **Aligning the choice of round with other data sources**. As many publications use other micro and macro data sources along the ESS data they often select the ESS round which is closest in time to these sources. Examples: Aligning the timing of ESS round with data from EVS, ISSP, WVS, GGS, EU-SILC or with the timing of policy predictors such as Europe Rainbow Index, Media Pluralism Monitor, a policy predictor on immigration policy;

- **Aligning the choice of round with social events**, treated as natural experiment or intervention. Many publications carry out pre-post analysis, often when a social event happens during the ESS fieldwork. Examples: a round's fieldwork coinciding with French riots, publication of a papal encyclical, intense Brexit debates around Withdrawal Agreement, anti-austerity protests, Harvey Weinstein scandal, new EU legislation, global economic recession, Covid pandemic;

- **Analytical reasons**. Examples: Replicating a previous analysis using the same ESS dataset; randomized survey experiment in Timing of Life rotating module;

In summary, single or selective round use is driven primarily by motivation of recency and topic specifics, but also country coverage issues or alignment with other data sources and social events.

It is conceivable that after the mode switch single round use will increase to some extent for a period of time, but not necessarily to the same extent for all topics. It can be assumed that **topics based mostly on core** and simultaneously targeting smaller sub-groups which are often increased by pooling rounds will be more exposed to mode switch. *Figure 12* shows a detailed list of topics in ESS-based publications according to the share of single or multiple rounds use, revealing fairly large differences between topics.

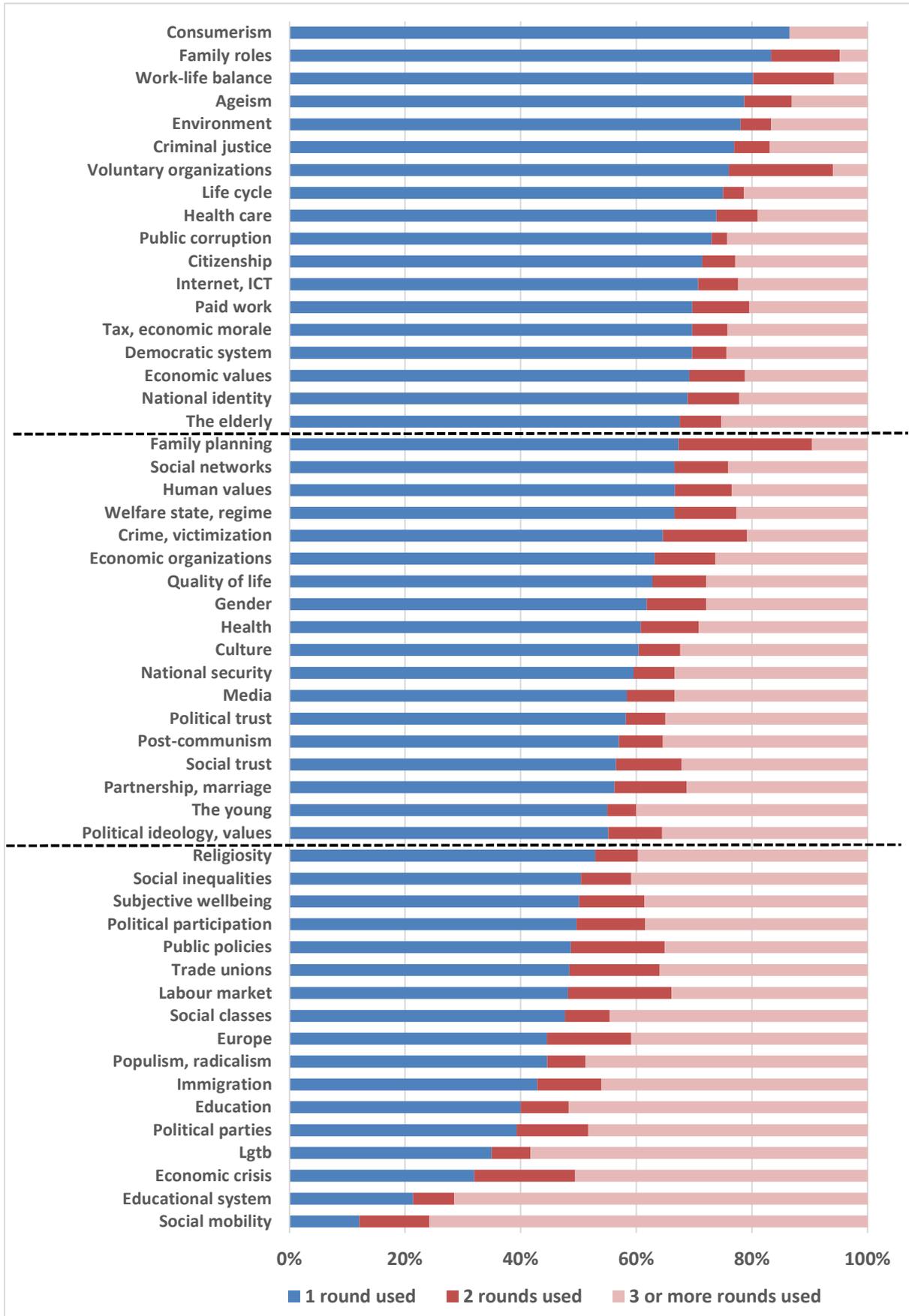


Figure 12: Number of rounds used across detailed topics (N=4137)

Among topics in the top third of the chart, single round was used in about 65% cases or more, while among topics in the bottom third of the chart it was used in less than 50%, sometimes below 40% or 30%. In fact, many of the **ESS 'big' topics** rely quite heavily on multiple-rounds use, including immigration, political populism and political participation, social inequalities, wellbeing and labour market. Among the big topics that rely mostly on single round analysis are family & work related issues and environment, but the latter module was only fielded once so this may be an underestimation. In general, topics with highest shares of single round use are typically those closely related to rotating modules and with little thematic connection to the core part (family, work-life conflict, ageism, environment, criminal justice etc.).

In anticipation of the mode switch ESS could use some **strategies to help analysts**, the main one obviously being to reduce mode effect. But there are also strategies that would make the first web round more attractive for single use, like increasing sample sizes within countries, increasing comparative scope (and sample size) by maximizing the number of participating countries (though not at the expense of data quality), including some popular individual items from rotating modules and similar.

On the other hand, **users' reaction to ESS switching mode** should probably not be overestimated. As suggested by user studies (Friedrich 2020; Faniel 2015, Yoon 2017) and the fact that relatively small share of ESS publications contain 'markers' of 'survey quality awareness' (see next section), a large majority of analysts seem to delegate responsibility for data quality almost entirely to data suppliers. As long as the data source is pre-endorsed in the scientific community, which is certainly the case for the ESS, most analysts will likely not have much reservations towards using it and will consider it health checked, safe and comparable. Strategically, ESS should probably assume minimal engagement from the majority of users and make all the necessary quality checks before issuing its first web dataset, as opposed to relying on users to do so.

The aspect that could potentially cause a bigger dip in ESS data would be if mode switch affected **ease of use**. Studies show data re-users' satisfaction is increased when data is comprehensive, easy to obtain, easy to manipulate, believable and well-documented (Faniel 2015). If downloading and managing ESS cumulative files would require more effort, skills and become a 'hassle', i.e. due to the absence of cross-mode cumulative data file and similar, the usage could drop. Analysts are faced with productivity demands and user friendliness is a significant factor in data use.

In the meantime, in terms of anticipating the user reaction, the bibliographic monitoring exercise will seek to benefit from the fact that **ESS round 10** was delayed and was mixed mode. Monitoring the reaction of analysts to the round 10 ESS dataset may be indicative to their sensitivity to the future mode change and will certainly be part of the agenda of the Wp11 Task 4 in the next period.

7 ANALYTICAL FEEDBACK

This section provides feedback on para-bibliographic variables that mostly indicate the level of **methodological awareness** among ESS based authors and their citation styles, and to some extent the use of ESS web resources. ESS was created with a specific aim to overcome long-lasting methodological deficiencies in comparative research so detecting authors' methodological concern is an interesting aspect of feedback.

Figure 13 shows this information for the entire 2003-2021 period and for the last publication year. It first indicates that almost 40% of publications cite some element of **ESS web pages**, either generally so or specific documents, such as sampling or weighting guidelines. One of the goals of the before mentioned SUSTAIN2 exploratory study will be to examine in more detail what users are looking for on ESS web page and what information may be missing.

References to using (or not using) **weights** are present in almost 43% of ESS publications in 2021, more than in the whole period, which suggests that this aspect of methodological awareness is on the increase (Figure 14). The same is true for citing ESS **data file edition**, i.e. using the ESS recommended citation format which was present in 33.5% of last year's publications. Nonetheless, the share is still relatively small considering that this information is quite essential for replication purposes.

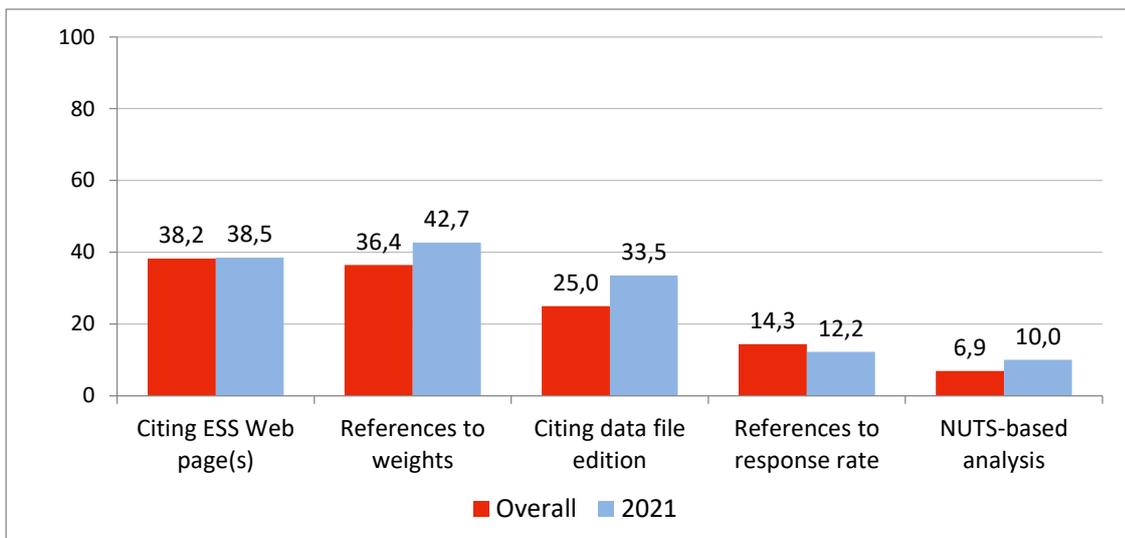


Figure 13 References to methodological awareness and ESS analytical resources in journal articles (% shares, N=2770)

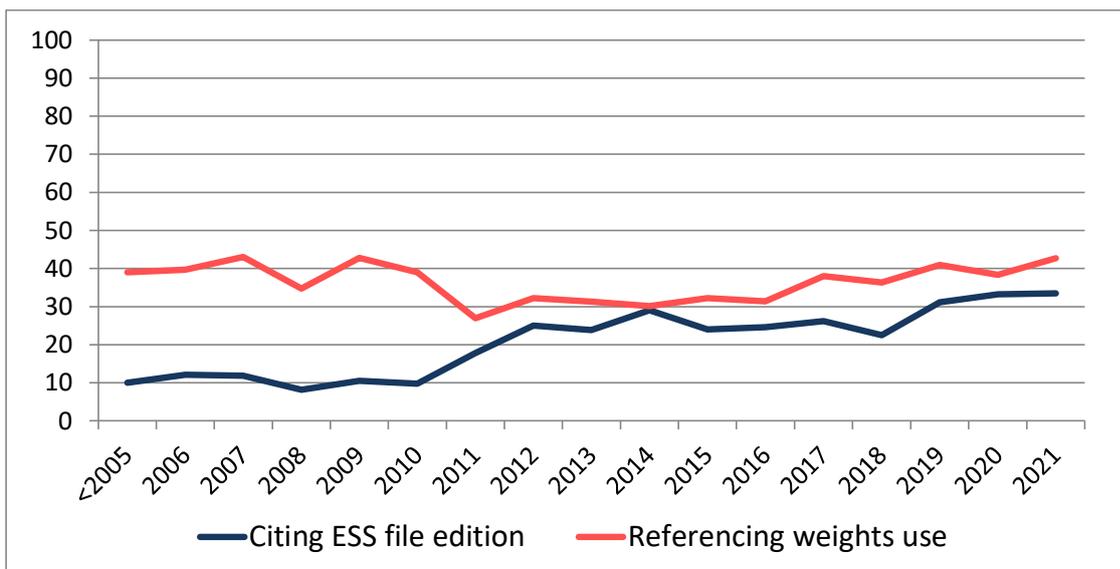


Figure 14: Citing ESS file edition and use of weights, 2003-2021 (% shares, N=4087)

References to ESS **response rate** were present about 12% of publications in 2021, which is a fairly stable share across years. It suggests on one hand that analysts and journals do not consider this information an essential part of data description and on the other, indicates what could be the share of methodologically most aware authors, who could also be more sensitive to the future ESS mode shift. The use of **NUTS regions** implying regional level analysis seems to be increasing in the last period and has reached 10% of publications in year 2021.

In terms of wider **replication** possibilities, the large majority of ESS based publications, though not all, provide information on survey years used, while there are many more cases of missing information for the countries included in the analysis, as well as on the exact items used. In 2021 there were 8 cases of downloaded papers where ESS data was clearly used but not a single specific item could be identified due to missing description, while in quite a few more publications some of the items were unidentifiable.

The second set of para-bibliographic variables relates to ESS within the wider **data ecosystem**, documenting to what extent other data sources are used along with the ESS micro data (Figure 15).

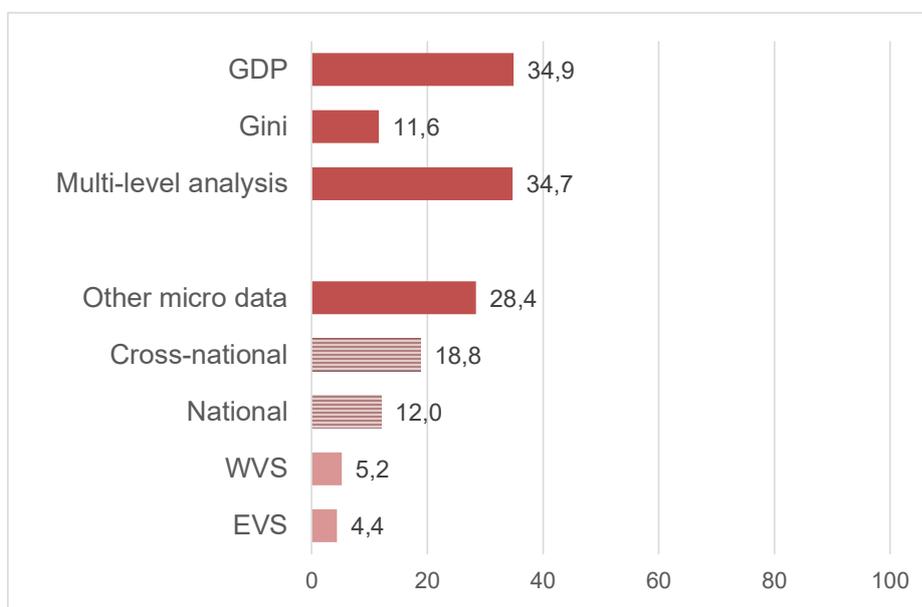


Figure 15: Co-use of ESS and other data sources in journal articles, 2003-2021 (% shares, N=2750)

A third of ESS-based publications use **multi-level analysis**, which usually requires country or regional level macro data from other sources. Among specific **macro indicators**, GDP is the most prevalent, followed by Gini, HDI and many others. The easy availability of Multilevel Data resources on ESS web page certainly increases the share of multi-level publications.

In addition to macro sources, ESS data is often (28% of all publications) combined with **other survey data**, either cross-national or national, or both. In the light of a likely EVS rotating module it is interesting to note that 142 publications co-use ESS with WVS and 121 or about 4% with **EVS**. As explained elsewhere (Malnar & Ryan 2022), these combinations support a variety of analytical strategies but the rotating module would obviously take the synergy between indicators from both datasets to a whole different level.

8 INFORMING POLICY

In addition to the production of scientific findings, informing policies is another essential ESS goal, similar to other publicly funded research programmes in social sciences. Surveys funded by national research councils (are expected to) cover both policy issues of concern to departments, and the theoretical and disciplinary interests of academic researchers, as well as broader policy issues (Hakim, 1982). Governments fund multi-purpose comparative surveys that are under academic control, but expect **general policy returns**.

ESS annual bibliographic reports include two general, yet robust indicators of this component. The first one is the number of keywords '*policy*' or '*policies*' in the body of publications' text, which indicates the 'intensity' of authors' policy orientation, and second, the *type of policy* that is mentioned. Measured by these indicators, **references to policies** are made in 79% of ESS publications and most of them refer to specific policy domains (*Figure 16*), most notably in the *welfare* (19.9%) and *immigration* (15.3%), but also *labour market*, *family* and *macroeconomic* policies (about 5-6%).

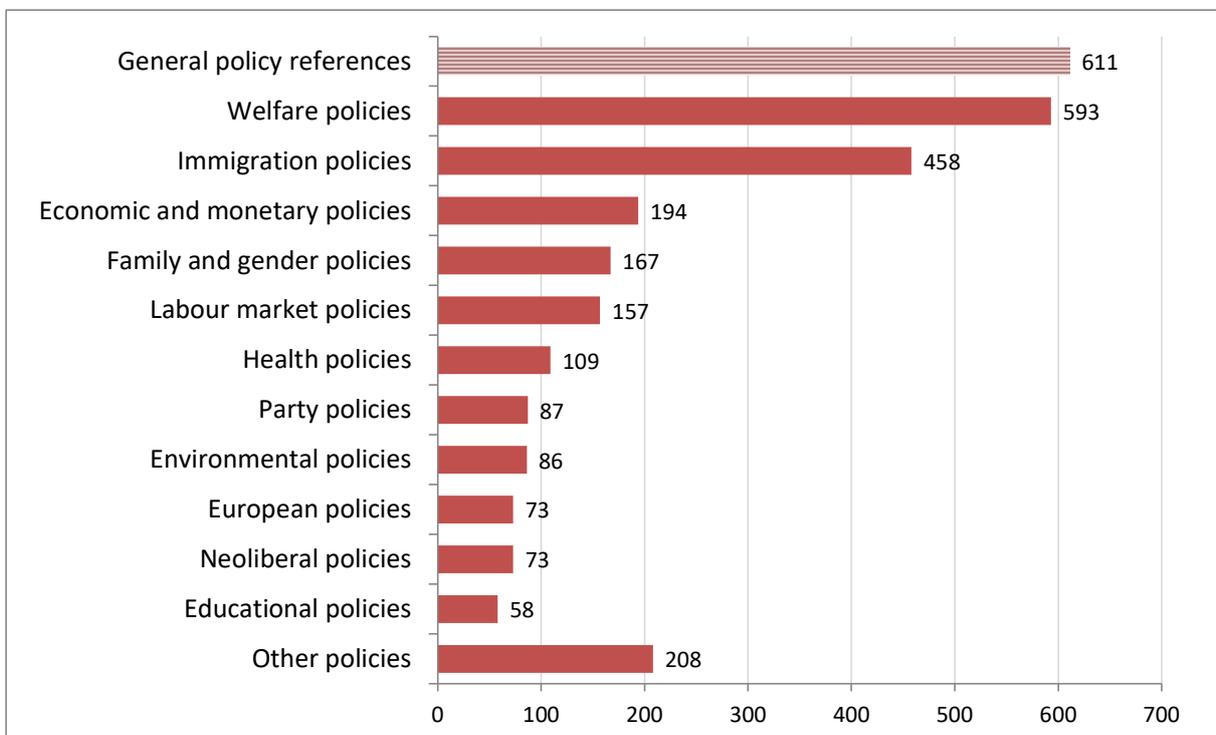


Figure 16: Domain structure of policy references in ESS based publications, 2003-2021 (N=2984, sum of two possible codes)

The cross-time picture presented in last year's report showed that policy areas with a constantly strong presence in ESS articles are *welfare and immigration*, but lately also *environment*, with the Climate change module being strongly policy oriented. Other areas with strong policy component are *macro economy and labour market*, particularly in periods of global crisis, a situation which could be re-emerging again after the pandemic and the war in Ukraine. Policy content in the health domain is also likely to expand considerably when post-pandemic publications will begin to be published, exploring the global effects of Covid-19 and governments' response to it.

The case of summarizing climate change module findings

Generating societal impact in terms of ‘general policy returns’ is clearly a factor in authors’ choice of topics, as well as when drawing conclusions from their studies. At least to some degree, most authors seek to pursue the ‘solutionist’ dimension of research (Prenzel 2016) by highlighting policy implications of their findings and putting them in the context of societal issues, not least in order to highlight the wider relevance of their research. However, the extent to which policy relevant information is actually being used by decision makers across ESS countries and its specific paths are is much better explored by a triangulation of methods, focusing particularly on case studies (e.g. the Technopolis report, by Kolarz et al., 2017).

Secondly, the translation of findings into policy relevant information may be hampered by the issue of **findings fragmentation** in quantitative paradigm (Kroneberg 2019; Esser 2017; Blaikie 2010). Some authors critically suggest it was in fact the trend of easy availability of quantitative data that has accelerated fragmentation, resulting in ‘increasing amount of literature with sophisticated but partial explanatory models, the production of spurious partial interpretation, the atomization of analysis, which may be delaying rather than accelerating theory development’ (Lagos 2008, p. 581). According to these authors, exploiting the growing mass of (scattered) evidence from hundreds of comparative studies in a more synthetic and theoretically meaningful way seems to be the key challenge for this paradigm and its programmes.

The issue is, of course, not specific to the ESS, yet as a formal infrastructure with considerable funds it could be expected to take a more active role in addressing this problem. To illustrate the potential for synthesis this annual report presents a small **summarization exercise** in the form of a literature review based on the **Climate change** rotating module 2016, specifically, *53 journal articles*. The two examples below are meant to demonstrate the sort of policy-oriented summarization of findings that could connect ESS data better with policy makers.

Example 1 (Figure 17): **factors that promote energy-saving behaviour:**

- **Altruistic and universalistic values and norms.** Articles show that respondents or groups with altruistic norms (as opposed to hedonistic and egocentric) are more prone to climate-friendly behaviour due to their orientation towards the benefit of others.

- **Perceptions of own efficacy.** Module based studies show that high perception of self-efficacy is key to encourage energy-saving behaviour. Individuals’ who believe in their own capabilities and the effectiveness of ‘small’ actions such as turning off the lights or using public transport will be more willing to exercise them. On the other hand, even if individuals are concerned for the environment, this will not translate into actions if their perceptions of self-efficacy are low, as these actions will seem futile. Authors’ suggestion to policy makers is that messages on climate change should contain information about the efficacy of ‘small’ actions, i.e. reinforce the belief that one is able to make a difference, particularly in harmony with large numbers of other individuals. They also note that strong use of social media platforms decreases perceived climate change efficacy.

- **Trust in others’ endorsement of environmental values:** Another key policy information is the importance of high perceptions of environmental concern in others for encouraging pro-environmental behaviour. Studies show that respondents structurally

underestimate how much others care, which acts as demotivator, inhibits climate action, as even people who are concerned about environment believe their actions would be pointless if others continue to 'free ride'. Data show though that this lack of concern is not true and again analysts suggest that policy makers better inform the public that others also strongly value the environment. Establishing care for environment as a widespread social norm seems to be a critical strategy for inspiring collective engagement and change relevant behaviour.

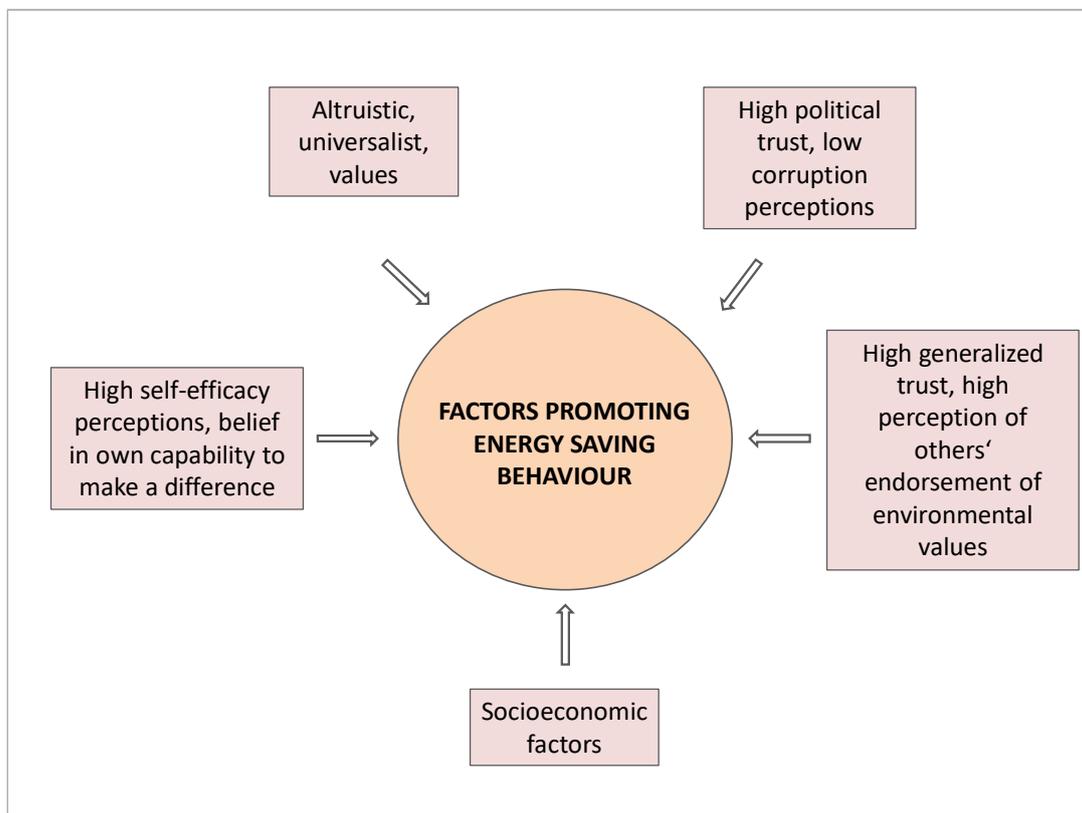


Figure 17: Informing policies, example 1: Determinants of energy-saving behaviour (based on meta-analysis of 53 scientific articles using 2016 Climate change module)

- **Socioeconomic factors:** Finally, studies find that income correlates positively with the likelihood of buying energy efficient appliances, but correlates negatively with the frequency of engaging in energy curtailments. Other variables such as education, values, political orientation etc. mediate between environmental concern and environmental behaviour and high income itself does not necessarily translate into willingness to pay environmental cost.

In sum, promoting energy-saving behaviour is one of key environmental policy goals. Based on the 53 articles the key is to communicate with public to increase beliefs in personal and collective abilities to contribute and positive outcome expectations to translate environmental concern into environmental behaviour.

Example 2 (Figure 18): factors that increase support for environmental policies

The second example is even more directly related to policies, namely identifying factors that increase support for environmental policies. For example, carbon pricing is widely considered a key policy instrument for achieving substantial climate change mitigation but

are often unpopular among voters. *Figure 18* presents six factors that promote environmental policies and taxation, derived from 53 articles:

- **Political ideology:** voters of left and green political orientation display the highest support for climate policies, typically forming a cluster of pro-immigrant, pro-climate, pro-welfare block of attitudes, while right-wing political orientation is negatively correlated with taxation support.

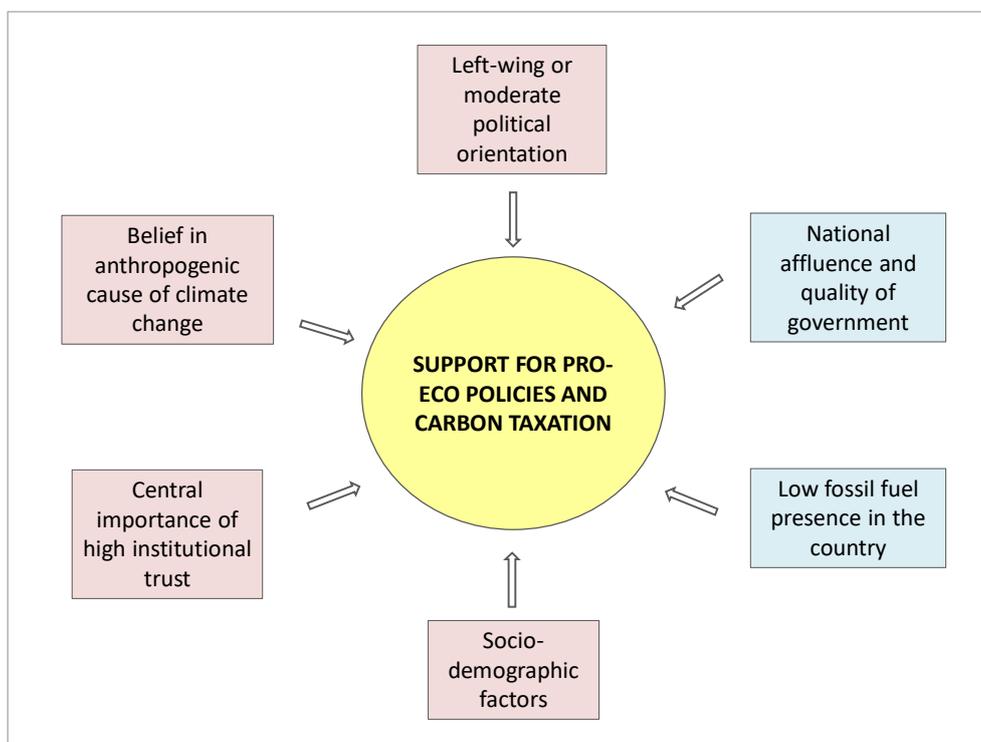


Figure 18: Informing policies, example 2: Determinants of support for environmental policies (based on meta-analysis of 53 scientific articles using 2016 Climate change module)

- **Climate change attitudes:** feelings about climate change affect both climate policy support and personal climate mitigation behaviours as people who do not believe in (anthropogenic) climate change would not see any meaning in them. It is therefore important that the public continues to be informed about the human caused climate change.

- **Institutional trust.** The effect of political trust was the most significant and universal across countries. Trust in institutions moderates the relationship between climate change concern and climate policy attitudes as concerned individuals in high-trust countries support climate policies more. Nations most supportive of higher taxes on fossil fuels are not those most concerned about climate change but those with the highest levels of political trust. This is a serious obstacle for carbon tax acceptance, as the average citizen in Europe does not trust their political institutions.

- **Socio-demographics:** low education and income are negatively correlated with taxation support, which suggests that reducing social inequalities may indirectly result in increased ability and willingness to pay environmental costs

- **Quality of government:** National affluence and quality of government translate into high political trust and higher support for pro-environmental policies. Accordingly, simultaneous support of welfare and climate policies is highest among social-democratic

countries while former state socialist citizens show mixed reactions when it comes to prioritizing environmental protection over personal economic security.

- **Country energy situation.** Finally, studies show that in countries where the fossil energy sector is still significant, even sensitized individuals are more reluctant to accept taxes on fossil fuel than their counterparts in other countries. This suggests the importance of supra-national cooperation or solidarity in transition to other sources of fuel.

General policy message based on these articles is that attitudes toward carbon and other environmental taxes reflect not just people's beliefs about the problems these taxes address, but also their trust in their country's politicians and political system. Key is to increase the level of transparency of public administrations so that people have a clear idea about the management of their money.

ESS has so far inspired thousands of academic publications and the same is true for other large comparative survey programmes. While ESS main goal is providing high quality comparative data it has also engaged in **synthesizing findings** via Findings booklets and Topline results series. Considering the growing mass of fragmented studies though an even more intense engagement in summarizing findings will likely be expected from research infrastructures in the future.

9 THE USE OF ESS BIBLIOGRAPHIC APP

The final section reports on the use of the new ESS Online bibliography and the associated online application. In 2021 NSD and UL implemented a joint initiative to design an **integrated solution** that would replace the former ESS online bibliography and merge its old records with the Google Scholar repository. The UL researcher-programmer synchronised the Google Scholar database with old NSD format and successfully imported old database that was hosted on NSD servers into **new searchable bibliographic application**.

The application is still being improved, e.g. by adding additional search criteria and missing DOI identifiers to eliminate most of the duplicates that resulted from merging the Google Scholar database with the previous online bibliography. The combined ESS bibliographic repository currently includes **8521 records** from both sources. Each year after the annual Google Scholar based search between 500-600 new bibliographic entries are added to the system. There is also a self-completion option for authors, allowing them to add publications themselves. However, in 2022 only 14 articles were added by users for consideration which suggests that NC forum should be advised to encourage national users to add publications, particularly those in national languages.

In terms of users, the main target groups include analysts from a number of academic communities, as well as NCs and other ESS bodies. In general the new online bibliography and the associated app have been well accepted, with **5647 visitors** (4763 unique) so far in 2022, as show in *Figure 19*. Visitors come from many different countries, the majority of them from ESS participating countries. They are largely referred there from the *europeansocialsurvey.com* main website (81 %), while some (4%) came from the ESS *twitter posts* and (only) 5 % of the visitors were referred from *search engines*. This indicates the need to increase the app's presence on them, most notably via improved eywords and by increasing the number of links that lead to the site (e.g. putting links on national ESS web pages).

In the first year of the app's operation (2022), page visitors carried out **5130 searches**. The terms they most commonly searched for were wellbeing (103 searches), food (91 searches), gender (76 searches) and human values (55 searches). Food in particular is an unexpectedly popular term and may suggest there is an audience for an ESS module on diet and nutrition. It should also be noted that the bibliography search is currently not a general search engine and only searches within the pool of ESS items. Considering there is a significant number of organic searches, i.e. searches comprised of a whole sentence, such as *»Level of belief that migrants are good for the economy vs migrant population size and native-born unemployment rate circa 2012-2014 in Europe«*), an organic search engine will be implemented into the app in the future to further optimise user experience.

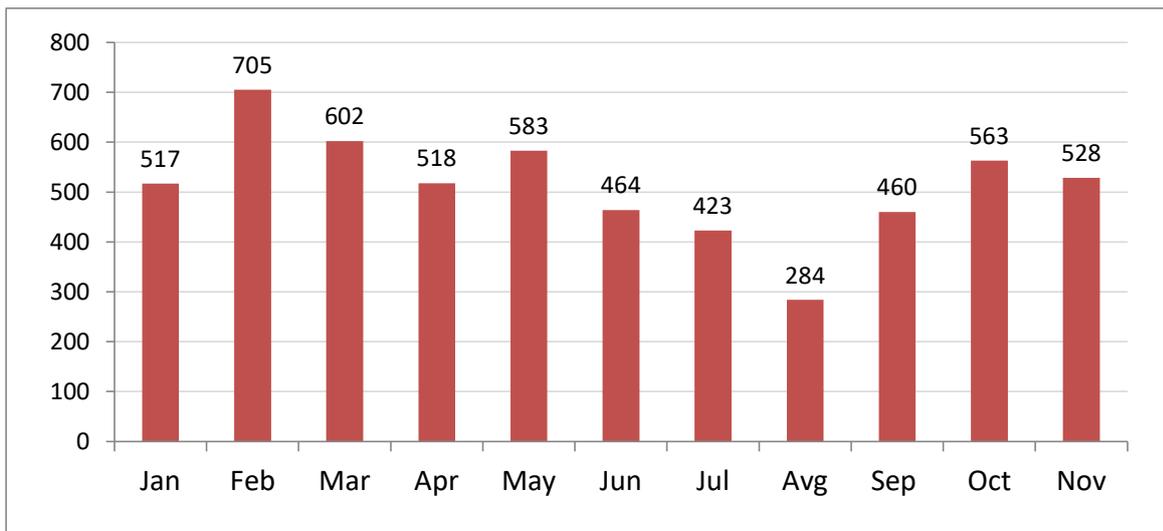


Figure 19: Monthly visits to the new ESS Online bibliography in 2022

Another popular feature is **browsing ESS bibliographic records**. Visitors were mostly looking for publications from given countries, most likely to count the number of units per country for reporting purposes. There are also cases of repeated browsing patterns across different rounds, implying browsing for publications that compare the data longitudinally. The majority of browsing queries were without any particular topic selected but when selected, users' main topics of interests were subjective well-being, welfare and gender issues.

There were also quite a few (unsuccessful) attempts at hacking the web app (4607 requests looking for vulnerabilities), which highlights the importance of continuously working on improving the speed, security and reliability of the application. UL will continue with server maintenance, application security updates and minor usability improvements based on user feedback and analytics.

10 KEY TAKEAWAYS

- ESS continues to demonstrate its **scientific relevance**. With the 2021 publishing year added, the overall number of ESS based publications identified via Google Scholar has reached 5966, among them 3279 articles in peer-reviewed journals.
- There are six **scholarly fields** where ESS based analyses appear most frequently, most notably sociology (33.9%), political science (23.7%) and economy (13.8%), followed by health & medicine (6.4%), psychology and methods (both 5.6%). Taking three authorships as an ad-hoc margin, ESS has a fairly significant base of about 1100 'loyal' authors that could be characterized as its core data community.
- The share of repeat authors from those who based their PhD on ESS data is even larger than generally, supporting the premise of student experience being carried over to researcher experience. This demonstrates the importance of making the ESS a **teacher and student friendly infrastructure**, particularly through ease of use and richness of resources. ESS should put maximum effort into quickly reinstating two important online resources related to teaching, online data analysis software and EduNet.
- Politics remains the most explored **subject** in the ESS based academic literature, with large number of studies focusing on political populism and the determinants of its support. Other big topics include immigration, welfare, work and family issues, wellbeing, values, citizenship, social capital and social inequalities.
- 80% of ESS international publications were **co-authored** by writers affiliated in 10 advanced Western European countries and the USA. On the other hand, there are 765 publications (co)authored by academics in Eastern Europe, a slowly increasing share which likely reflects an increasing number of East European member countries.
- The use of country data shows how well researched a country is using ESS as the empirical basis. The **inclusion shares of national datasets** range from 76% for Germany and less than 3% for Montenegro. Countries that participated in more rounds generally have the highest rates of inclusion, while participation gaps are translated into gaps in findings production.
- There are additional reasons for exclusion of individual countries which data is otherwise present in the cumulative dataset. Among **preventable reasons** are exclusions due to skipping ESS rounds and due to quality issues such as missing items, high item nonresponse, deviations in wording, coding, scales or filtering, missing weights, missing paradata, which can be directly addressed by the ESS. Non-preventable reasons include theoretical exclusion, missing macro or micro data from other sources, mismatch between ESS and other data sources, sample size issues, lack of variation on individual variables, idiosyncratic societal characteristics etc.
- In terms of academic publishing, the A, B, C core part remains the most used attitudinal section of the ESS questionnaire. The four most popular ESS **rotating**

modules addressing thematic areas with widest academic and policy salience are Immigration, Work & Family, Welfare and Wellbeing with roughly between 250-500 publications. The second group consists of modules with roughly between 50-100 publications, including Democracy, Health Inequalities, Climate Change and Timing of life.

- There is a trend towards a growing share of **core-only publications**, whose share was roughly between 40-50% by the year 2015, while in later years it fluctuates between 50-60% or more. This is likely the consequence of a growing trend of multiple rounds use which focuses on the attitudinal core.
- As ESS prepares for the imminent mode switch, the so far 'unproblematic' practice of widespread **cross-round use** becomes more risky, with the introduction of mode effects. In 2021 more than 51% of publications used multiple ESS rounds, 22% of them 8 or 9 rounds. Topics based mostly on core and simultaneously targeting smaller sub-groups which are often increased by pooling rounds will likely be more exposed to mode switch, most notably immigration, political populism and participation, social inequalities, wellbeing and labour market.
- **Single or selective round use** is driven primarily by motivation of recency and topic specifics, but also country coverage issues or alignment with other data sources and social events. Among the big topics that rely mostly on single round analysis are family with work-life balance and environment. It is conceivable that after the mode switch single round use will increase to some extent for a period of time, but not necessarily equally for all topics.
- **Users' reaction to ESS switching mode** should probably not be overestimated. As suggested by user studies a large majority of analysts seem to delegate responsibility for data quality almost entirely to data suppliers. Strategically, ESS should probably assume minimal critical engagement from the majority of users and make all the necessary quality checks before issuing its first web dataset. The aspect that could potentially cause a bigger dip in ESS data use than the mode switch itself would be if ease of use was compromised, e.g. by not offering a cross-rounds cumulative file.
- **References to policies** are made in 79% of ESS publications, most often in the domains of welfare (19.9%) and immigration (15.3%), but also labour market, family and macroeconomic policies (about 5-6%). While ESS main goal is providing high quality comparative data it has also engaged in **synthesizing findings** via Findings booklets and Topline results series. Considering the growing mass of fragmented studies though an even more intense engagement in summarizing findings may be expected from research infrastructures in the future.
- In 2022 an integrated solution was implemented that replaced the former ESS online bibliography and merged its old records with the Google Scholar repository. The combined bibliography now includes **8521 records**. The new online bibliography and the associated application were well accepted, with **5647 visitors** (4763 unique) by November 2022. 81% of users were referred to the app from the ESS and only 5 %

from search engines, which indicates the need to improve the app's presence on them.

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