

### 3. Survey methodology

The study comprised two separate but related online surveys – a survey of academies, which are members of either the IAP or the ISC or both, and a survey of international disciplinary unions and associations, which are members of the ISC. The first was administered between November 2019 and March 2020, and the second between May and June 2020. The questionnaire for this academy survey closely matched that of the 2015 academy survey, with some additional questions aimed at determining progress made in terms of women’s participation based on the recommendations of the previous report. The ISC disciplinary organization<sup>III</sup> survey followed a somewhat different format to take account of the different organizational structures of the various members, where the representatives can be either countries or individuals, or both. The survey was developed to explore the extent to which ISC international disciplinary organizations have responded to gender equality imperatives in their leadership and implemented activities that are designed to promote greater participation of women and gender-responsive actions in their respective disciplines. The two survey instruments are included in Appendices 2 and 3.

Based on its website<sup>IV</sup>, the IAP has 140 member-academies, which are grouped into four broad geographical regions (Africa, Americas, Asia-Pacific and Europe) as well as in a cross-spanning region (global and regional) for academies that are not national academies (e.g. The World Academy of Sciences or TWAS). Included in the IAP membership list are national medical academies. The survey did not target academies of engineering. The ISC, on the other hand, according to its website<sup>V</sup>, includes 85 academies among a larger list of other organizational types. The ISC academy membership partially overlaps that of the IAP but also includes some humanities and social science academies that are not members of the IAP.

The actual records used for the sampling frame contained the names and addresses of 215 academies. Of these, 153 were senior academies, 44 young academies and 18 young scientist networks. Eventually, a total of 146 submissions by academies was received in the online survey. Once duplicate submissions were removed (i.e. where the same academy submitted more than one form), 95 unique submissions remained, giving a response rate of 44%. Of these, 10 were not usable (e.g. the academies completed only the demographics section of the questionnaire), resulting in a final total of 85 questionnaires available for analysis.

In the case of the survey of disciplinary unions and associations, a total of 40 submissions were received, of which two were duplicates. As the population comprises 63 disciplinary organizations, the 38 valid submissions indicate a response rate of 64%.

Tables 1 and 2 list the 85 academies that submitted questionnaires that could be used in data analysis. Of these, 80 are national academies. They appear in Table 1 and are arranged by country and classified in terms of world region and their membership affiliation (IAP and/or ISC). The five global or regional academies appear in Table 2, which follows a similar reporting structure. In each case, the young academies (which, except for the Global Young Academy (GYA) are not members of either IAP or ISC) are shaded.

**Table 1: List of national academies that participated in the 2020 survey**

Country	Academy	World region	Membership (IAP and/or ISC)
Argentina	Academia Nacional de Ciencias	Americas	IAP
Australia	Australian Academy of Science	Asia-Pacific	IAP and ISC
Austria	Austrian Academy of Sciences	Europe	IAP and ISC
Bangladesh	Bangladesh Academy of Sciences	Asia-Pacific	IAP and ISC
Belgium	Koninklijke Academie voor Geneeskunde van België	Europe	IAP
Belgium	Koninklijke Academie voor Nederlandse Taal en Letteren	Europe	IAP
Belgium	Koninklijke Vlaamse Academie van België voor Wetenschappen en Kunsten	Europe	IAP
Belgium	The Royal Academies for Science and the Arts of Belgium	Europe	IAP and ISC
Belgium	Young Academy of Belgium	Europe	Neither
Bosnia and Herzegovina	Academy of Sciences and Arts of Bosnia and Herzegovina	Europe	IAP and ISC

III The term “ISC disciplinary organization” is a generic term used for both disciplinary unions and associations that are members of the ISC.

IV <https://www.interacademies.org/index.php/network/member-academies>

V <https://council.science/members/online-directory/>

Country	Academy	World region	Membership (IAP and/or ISC)
Brazil	National Academy of Medicine of Brazil	Americas	IAP
Brazil	Brazilian Academy of Sciences	Americas	IAP and ISC
Cameroon	Cameroon Academy of Sciences	Africa	IAP and ISC
Cameroon	Cameroon Academy of Young Scientists	Africa	Neither
Canada	Royal Society of Canada	Americas	IAP
Chile	Chilean Academy of Sciences	Americas	IAP and ISC
Colombia	Colombian Academy of Exact, Physical and Natural Sciences	Americas	IAP and ISC
Croatia	Croatian Academy of Sciences and Arts	Europe	IAP
Cuba	Academy of Sciences of Cuba	Americas	IAP and ISC
Czech Republic	Czech Academy of Sciences	Europe	IAP and ISC
Democratic Republic of the Congo	Academie des Sciences pour les Jeunes en République Démocratique du Congo	Africa	Neither
Dominican Republic	Academia de Ciencias de la República Dominicana	Americas	IAP and ISC
Egypt	Academy of Scientific Research and Technology	Africa	IAP and ISC
Estonia	Estonian Academy of Sciences	Europe	IAP and ISC
Ethiopia	Ethiopian Academy of Sciences	Africa	IAP
Finland	Young Academy Finland	Europe	Neither
France	Académie des Sciences, Institut de France	Europe	IAP and ISC
Georgia	Georgian National Academy of Sciences	Asia-Pacific	IAP and ISC
Germany	Berlin-Brandenburg Academy of Sciences and Humanities	Europe	IAP
Germany	Die Junge Akademie	Europe	Neither
Germany	German National Academy of Sciences Leopoldina	Europe	IAP
Ghana	Ghana Academy of Arts and Sciences	Africa	IAP and ISC
Guatemala	Academia de Ciencias Medicas, Físicas y Naturales de Guatemala	Americas	IAP and ISC
Honduras	National Academy of Sciences of Honduras	Americas	IAP and ISC
Hungary	Hungarian Academy of Sciences	Europe	IAP and ISC
Hungary	Hungarian Young Academy	Europe	Neither
India	Indian National Science Academy	Asia-Pacific	IAP and ISC
Ireland	Royal Irish Academy	Europe	IAP and ISC
Islamic Republic of Iran	Academy of Sciences of the Islamic Republic of Iran	Asia-Pacific	IAP
Islamic Republic of Iran	Iranian Academy of Medical Sciences	Asia-Pacific	IAP
Israel	Academy of Sciences and Humanities	Asia-Pacific	IAP and ISC
Italy	Accademia Nazionale dei Lincei	Europe	IAP
Japan	Science Council of Japan	Asia-Pacific	IAP and ISC
Latvia	Association of Latvian Young Scientists	Europe	Neither
Latvia	Latvian Academy of Sciences	Europe	IAP and ISC
Lebanon	Lebanese Academy of Sciences	Asia-Pacific	IAP
Lithuania	Lithuanian Academy of Sciences	Europe	IAP and ISC
Malaysia	Academy of Sciences Malaysia	Asia-Pacific	IAP and ISC
Mexico	Academia Mexicana de Ciencias	Americas	IAP and ISC
Mongolia	Mongolian Academy of Sciences	Asia-Pacific	IAP and ISC

Country	Academy	World region	Membership (IAP and/or ISC)
Netherlands	Royal Netherlands Academy of Arts and Sciences	Europe	IAP and ISC
New Zealand	Royal Society Te Apārangi	Asia-Pacific	IAP and ISC
Nicaragua	Nicaraguan Academy of Sciences	Americas	IAP
Nigeria	Nigerian Academy of Science	Africa	IAP and ISC
Nigeria	Nigerian Young Academy	Africa	Neither
Norway	Norwegian Academy of Science and Letters	Europe	IAP and ISC
Pakistan	National Academy of Young Scientists	Asia-Pacific	Neither
Palestine	Palestine Academy for Science and Technology	Asia-Pacific	IAP
Peru	Academia Nacional de Ciencias	Americas	IAP and ISC
Poland	Polish Young Academy	Europe	Neither
Republic of Korea	Korean Academy of Science and Technology	Asia-Pacific	IAP and ISC
Republic of Korea	National Academy of Sciences	Asia-Pacific	IAP and ISC
Republic of North Macedonia	Macedonian Academy of Sciences and Arts	Europe	IAP and ISC
Romania	Academy of Medical Sciences of Romania	Europe	IAP
Serbia	Serbian Academy of Sciences and Arts	Europe	IAP and ISC
Singapore	Singapore National Academy of Science	Asia-Pacific	IAP and ISC
Slovakia	Slovak Academy of Sciences	Europe	IAP and ISC
Slovenia	Slovenian Academy of Sciences and Arts	Europe	IAP and ISC
South Africa	Academy of Science of South Africa	Africa	IAP
South Africa	South African Young Academy of Science	Africa	Neither
Sri Lanka	National Academy of Sciences of Sri Lanka	Asia-Pacific	IAP
Sweden	Royal Swedish Academy of Sciences	Europe	IAP and ISC
Tanzania	Tanzania Academy of Sciences	Africa	IAP
Taiwan, China	Academia Sinica	Asia-Pacific	IAP and ISC
United Kingdom	Academy of Medical Sciences	Europe	IAP
United Kingdom	Royal Society	Europe	IAP and ISC
United States of America	National Academy of Medicine	Americas	IAP
United States of America	National Academy of Sciences	Americas	IAP and ISC
Venezuela	Academia de Ciencias Físicas, Matemáticas y Naturales de Venezuela	Americas	IAP
Zimbabwe	Zimbabwe Academy of Sciences	Africa	IAP

**Table 2: List of global and regional academies that participated in the 2020 survey**

Country	Academy	Membership (IAP and/or ISC)
Germany	Global Young Academy	IAP
Germany	Young Academy of Europe	Neither
Italy	The World Academy of Sciences	IAP and ISC
Jordan	Islamic World Academy of Sciences	IAP
Trinidad and Tobago	Caribbean Academy of Sciences	IAP and ISC

In the 2015 survey, 72 academies submitted usable questionnaires. Of these, 48 also completed the 2020 survey, two completed only the demographics part of the 2020 survey, and 22 did not complete the 2020 survey. The overlap of 48 academies between the 2015 and 2020 surveys is important in that in the 2020 survey instrument, completion of the section about activities and actions that have occurred since the 2015 survey was directed only at academies that had participated in the earlier survey. However, there was a discrepancy between the actual statistics given above and self-reported statistics. Four academies did not participate in the 2015 survey and yet the respondents reported that they did. A total of 28 academies did participate in the 2015 survey but the respondents said they did not or did not know. Hence, there is a subset of only 20 academies that provide the basis for the analysis of the results in Section 4.

There are two results sections. The first (Section 4) is devoted to the findings of the academies' survey and the second (Section 5) to the findings of the survey of disciplinary unions and associations.