

Technical Appendix to GYA Impact Assessment

December 2018

This document is a technical appendix to the GYA Impact Assessment, which is published separately.

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Abbreviations

- GYA: Global Young Academy
- NA: in charts and tables = Not Applicable or No Answer
- NYA: National Young Academy

Introduction

Context and aims of the impact assessment

The Global Young Academy aims to give voice to young scientists around the world. The organisation has evolved greatly since the early ideas at inception; and whilst GYA has had number of annual reports documenting their activities, the 10 year mark is an opportunity to reflect on what has been accomplished so far; and to inform the next 2020-2025 strategic plan to increase impact for the next 10 years. So an impact evaluation was commissioned by GYA, conducted by external consultants to explore this impact further. The overall goal of this impact assessment was both to complement the self-evaluation report submitted to evaluation committee with personal narratives of impact, and to generate data to inform development of our next 5-year strategic plan.

The aims of the impact assessment were to better understand:

- how members, alumni, and other young scientists experience GYA activities
- the impact of GYA activities on them (on the individual, their institutions and countries, and globally)
- to explore the contribution of the GYA to this impact

This technical appendix complements the short GYA Impact Assessment report. Together they present the results of this assessment.

GYA Strategic goals

- Contribute to efforts to address societal challenge
- Identify, develop, and nurture global science leaders
- Maximise the potential of National Young Academies
- Provide benchmark reports on science policy topics relevant for young scientists (on science for policy; and for policy for science)
- Serve as an outstanding example for interdisciplinary, intergenerational, collaborative and cross-cultural dialogue in science

Research Method

Implementation of web survey

Following a review of documentation, an online survey was designed.

Potential respondents were GYA members, alumni, members of National Young Academies, and other young scientists (who may have had contact with GYA). Email lists were available as follows:

	Respondents
Alumni/Alumnae	213
Current Members	150
New Members	44
National Young Academy Members	200

Attendees at Science Leadership training (young scientists)	33
CILAC (young scientists)	43
Total	683

Invitations were sent to all the persons on these five lists, so in that sense, the survey is a so-called “census” rather than a “sample”, at least for the first three groups. However the respondents in the last three groups can be considered to be “convenience” subsamples, as there are various ways of defining “young scientist who may have had some contact with GYA”.

The main part of the survey was implemented from 2018-10-22 to 2018-11-13. In addition, this main data collection activity was preceded by a short pilot phase, involving respondents drawn from the main sample. As the questions were not changed at all as a result of this phase, these pilot responses are included in the database.

The survey was completely anonymised in the sense that it is not possible to match the responses to the sender emails or other details in any way, except where respondents volunteered their email addresses in the last section of the questionnaire, see p. 44.

The survey questionnaire is available as a separate PDF file.

103 persons completed the survey and another 22 started it but did not finish.

Central to the survey were “impact stories” which respondents were invited to submit. About 66% of respondents submitted at least one story, a total of 91 stories including 6 second and 3 third stories.

Analysis

Data was analysed using methods detailed section-by-section in the rest of this report. Descriptive statistics are given for the individual quantitative variables. In addition, the variables in each section are tested for any statistically significant relationships (at $p < .05$) with a set of background variables - gender, continent, etc.

The impact stories are also analysed using qualitative techniques, see p. 32.

Background variables

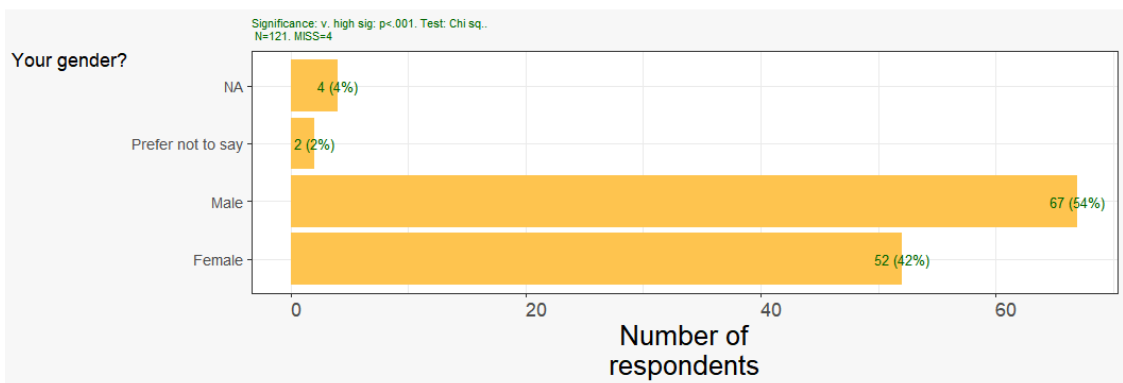
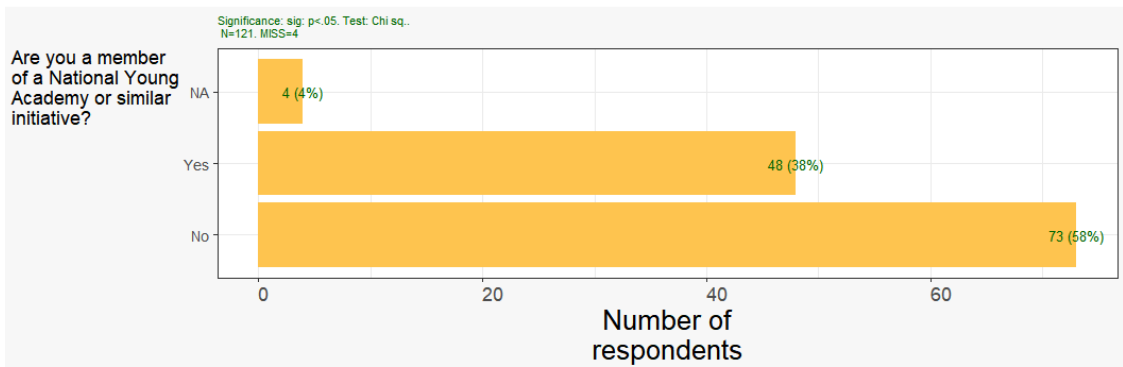
Individual background variables

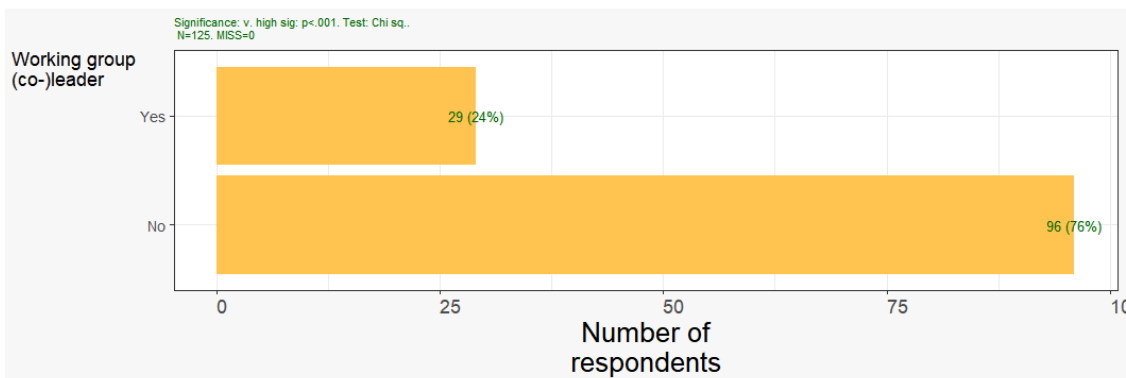
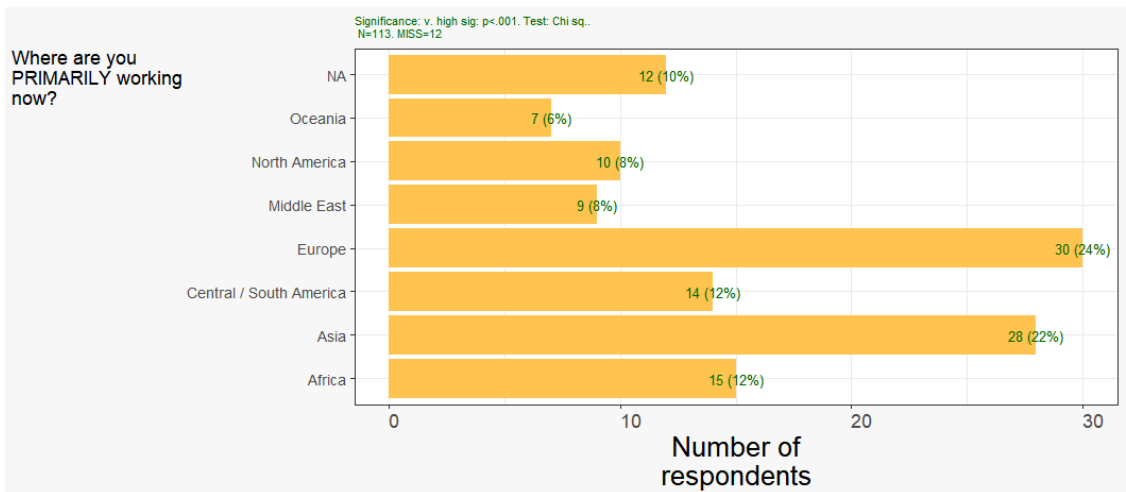
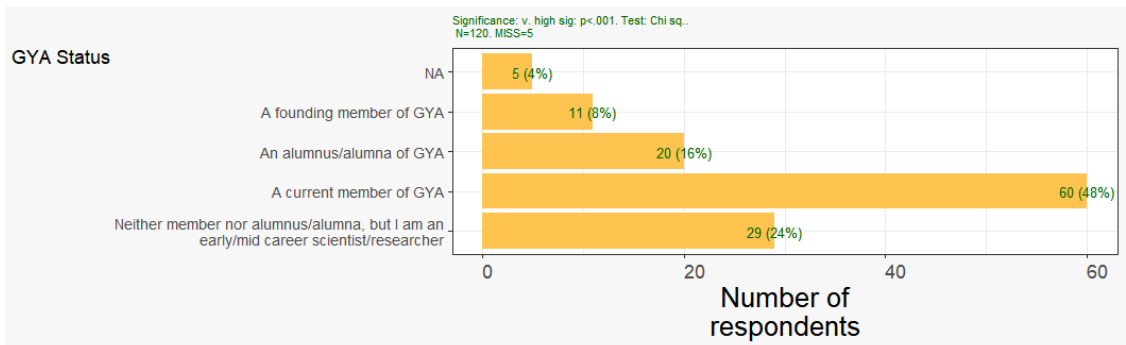
Background variables are variables like gender. The background variables give important information about the sample. Also, when we come to analyse the main variables like level of satisfaction, we will analyse them according to the background variables, e.g. to see if satisfaction differs by gender.

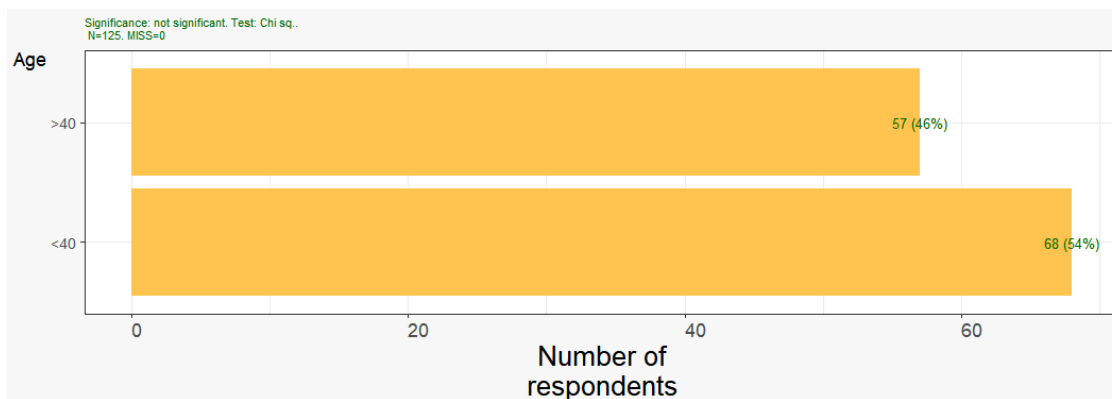
For each of these questions, only one answer was possible. So, for example, the response “founder member” excludes also answering “alumnus/alumna”.

The next set of graphics show each of the background variables in turn.

A binary variable “Age” (age older than 40 or not) is used rather than the original ordinal variable.







Important relationships between pairs of background variables

In this section, all the background variables are tested for significant relationships with each of the others. If the relationship is statistically significant, the corresponding graphic is printed. If it is not significant, no graphic is printed.

In this set of graphics, the size of the circles corresponds to the number of people. Each question is one row. So, in the last row, the big circle around “18” means that 18 people who were NYA members were not also members or alumnae of GYA, and that this is a surprisingly large number given the total number of NYA members and the number of people answering “neither member nor alumnus”. Red circles mean the number is bigger than expected¹, and blue circles (and numbers printed in italics) mean the number is smaller than expected.

Some key results are shown below.

More than half of the members of NYAs were not also members of GYA.

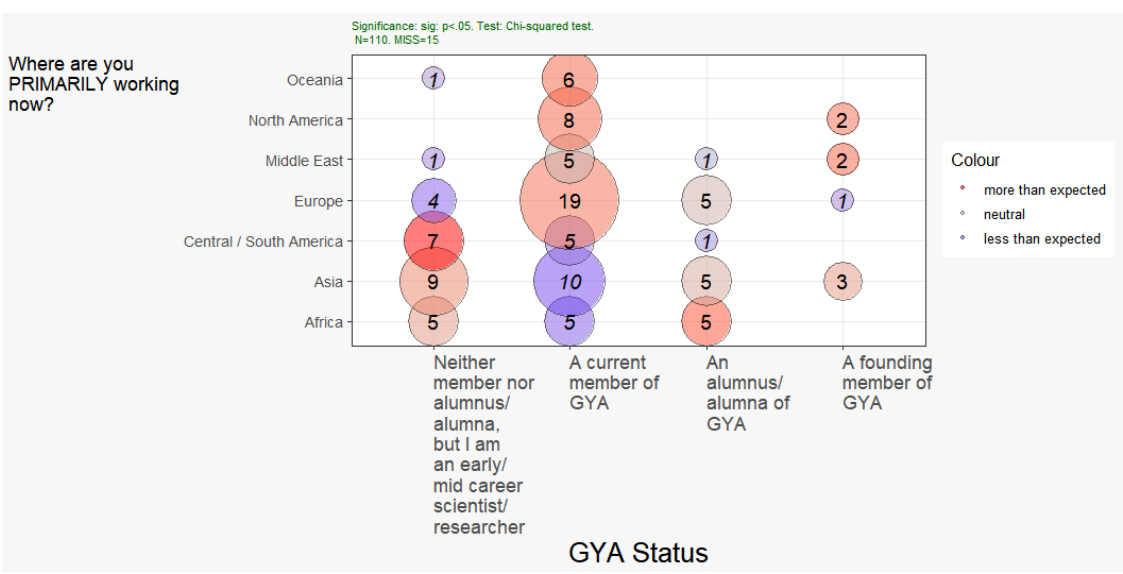
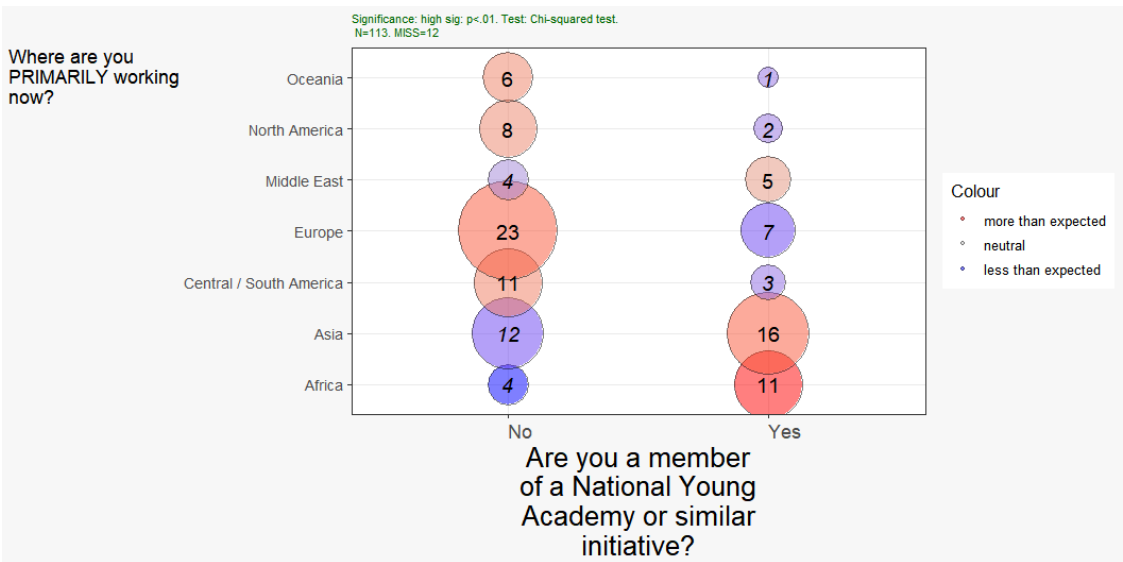
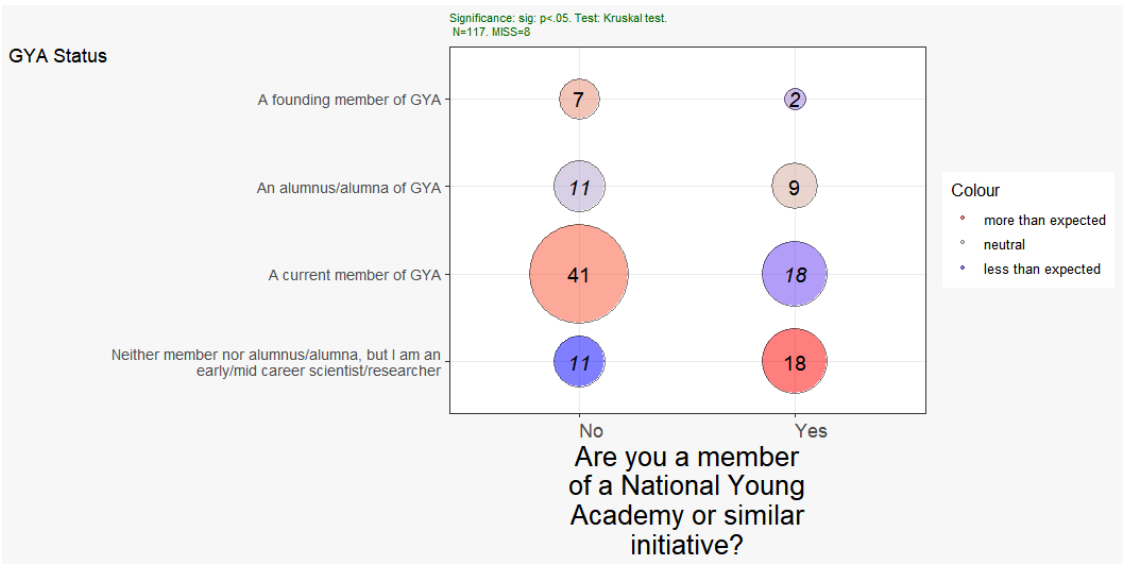
The young scientists who were not members of GYA were much younger.

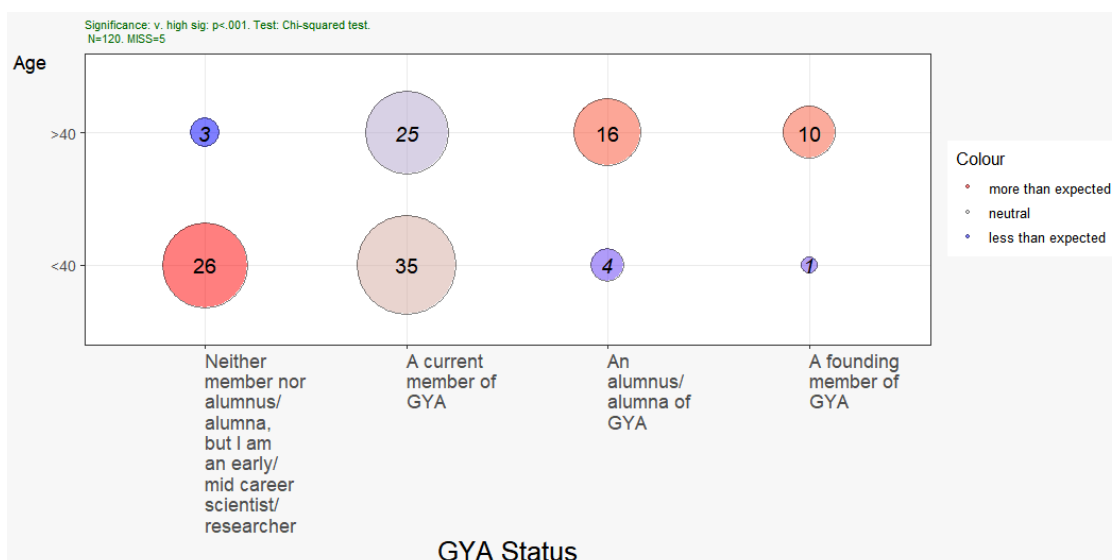
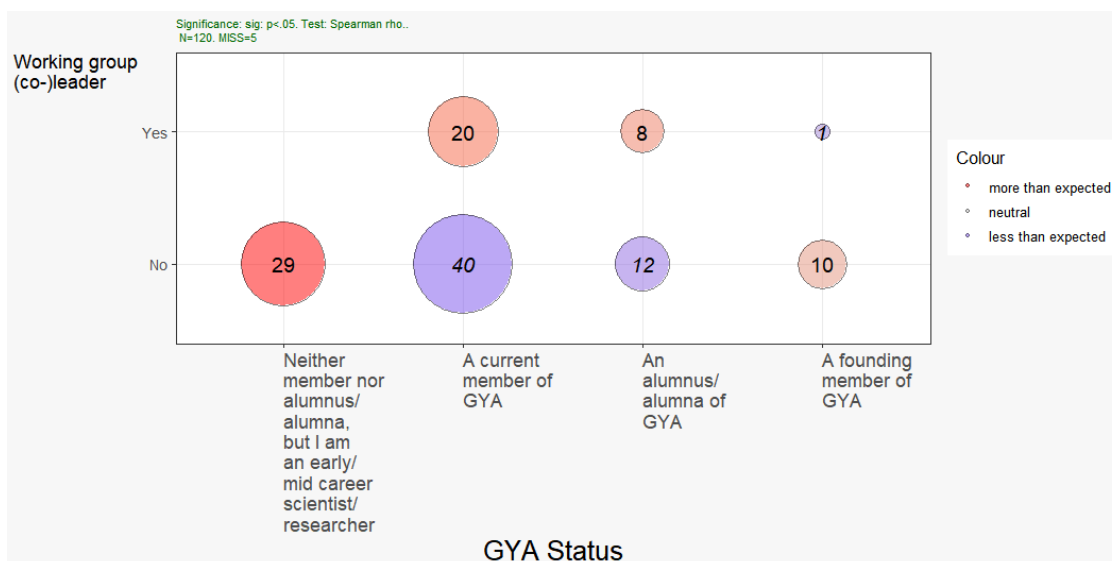
There are more young scientists who are not GYA members or alumni from Central and South America. This corresponds to the way the sample was drawn.

There are more NYA members from Asia and Africa.

There are more women from North America and fewer from Central and South America.

¹ “Unexpected” means that the number is different from what one would expect if the numbers were distributed evenly according only to the row and column marginal totals. It is actually calculated in terms of the residuals from a chi-squared test. For example, if there are 50% women in a country and 90% of the people live in North District, we would expect the number of women in North District to be 45% of the whole population. If in fact there are 55%, this would be unexpectedly large, and 35% would be unexpectedly small.



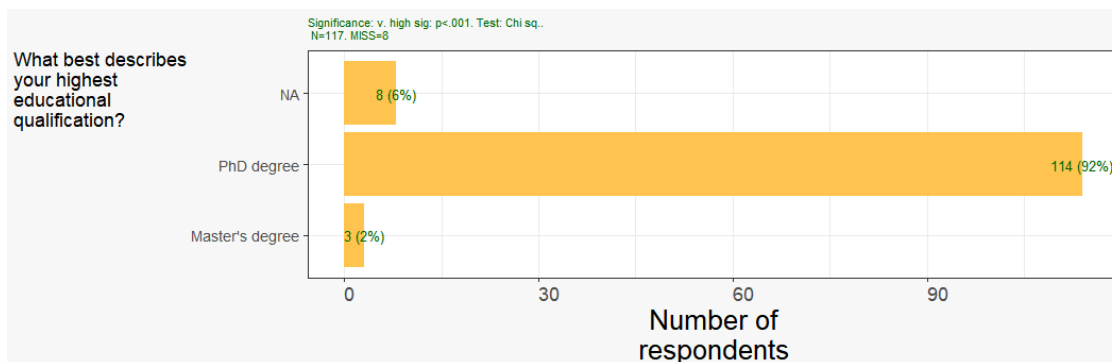


Other variables

In this section, some other variables are described which were not included as key background variables.

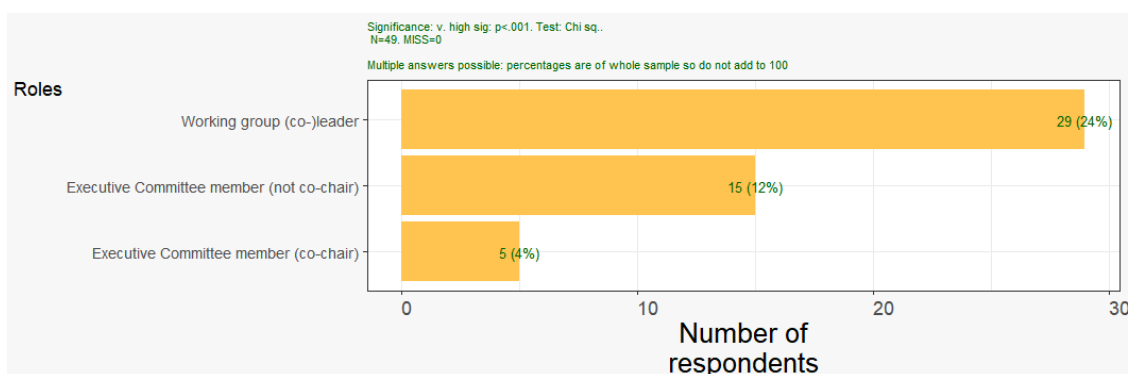
Almost all respondents had a PhD, so this next variable is not analysed further.

Education



GYA roles

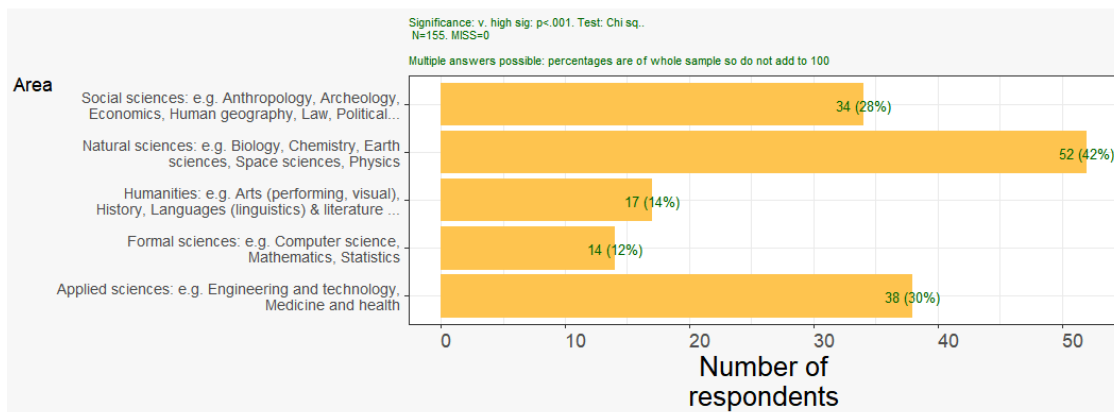
Respondents were able to select any, all or none of these three questions.



Area of work (discipline)

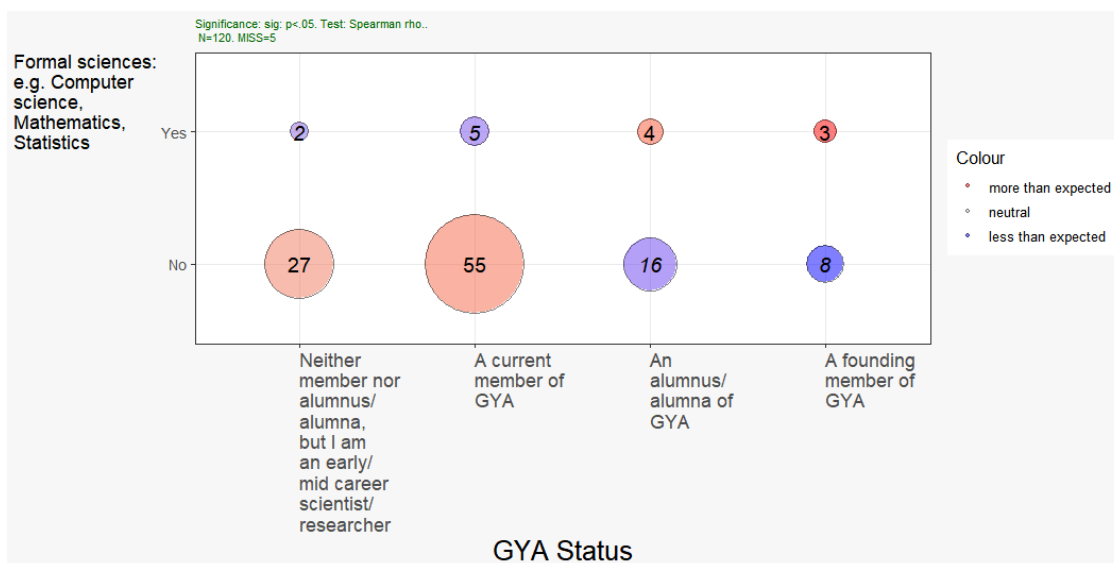
Respondents were able to select any, all or none of these questions.

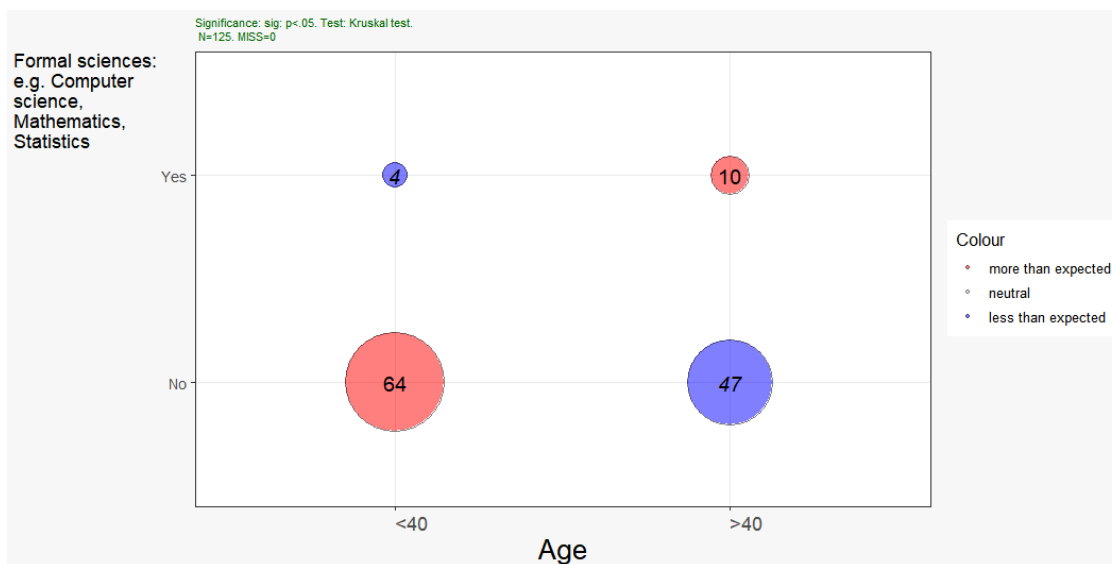
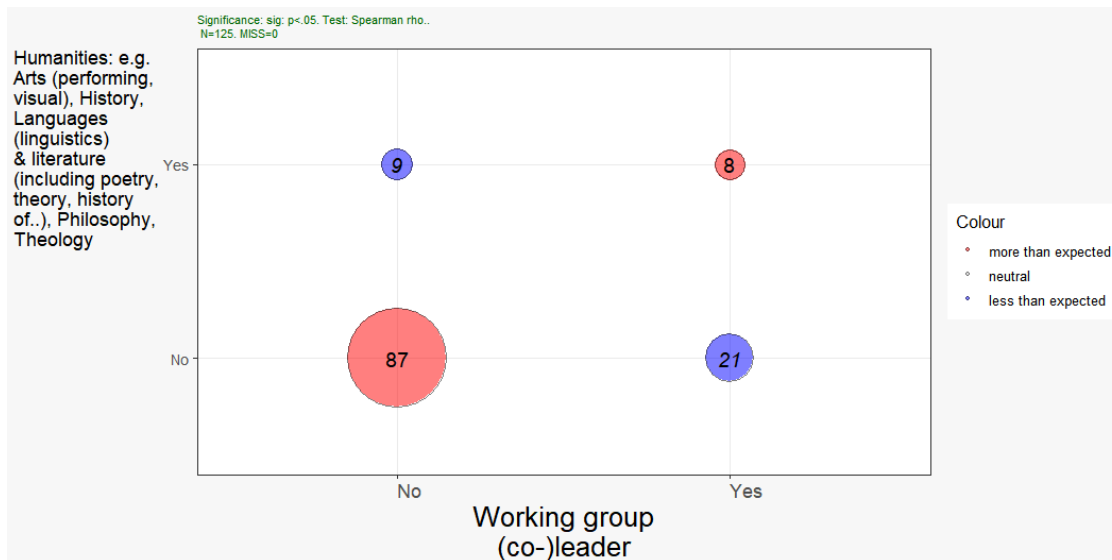
Note that the “WG (co-)leader” question is also used as a background variable as it was the only one of the three with any important relationships with the other variables.



Important relationships between area of work and background variables

There is a disproportionate number of respondents in the formal science who are older.





Topic of work

This variable combines answers from three free-text keywords or phrases.

Total number of respondents who answered: 325

Approximate total number of words: 618



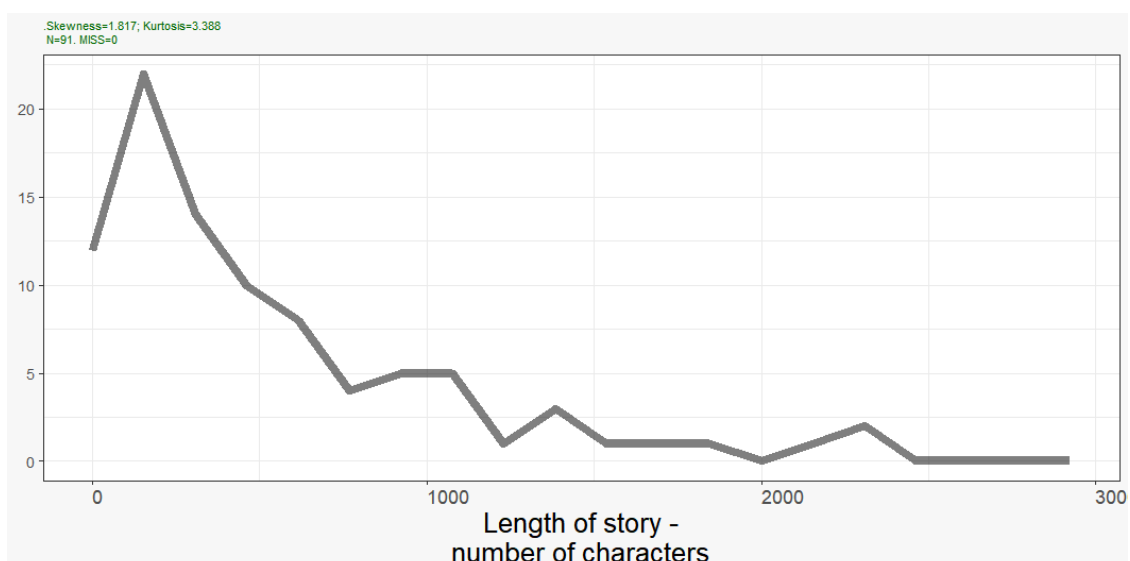
This analysis breaks up responses into individual words, so for example “environmental health” is broken down into “environment” and “health”.

The two most frequent words are “energy” and “health”.

Stories

Respondents were asked to think about the most positive effects the GYA has had for them, and to submit 1-3 such stories. For each story, a number of additional questions were posed.

Length of stories



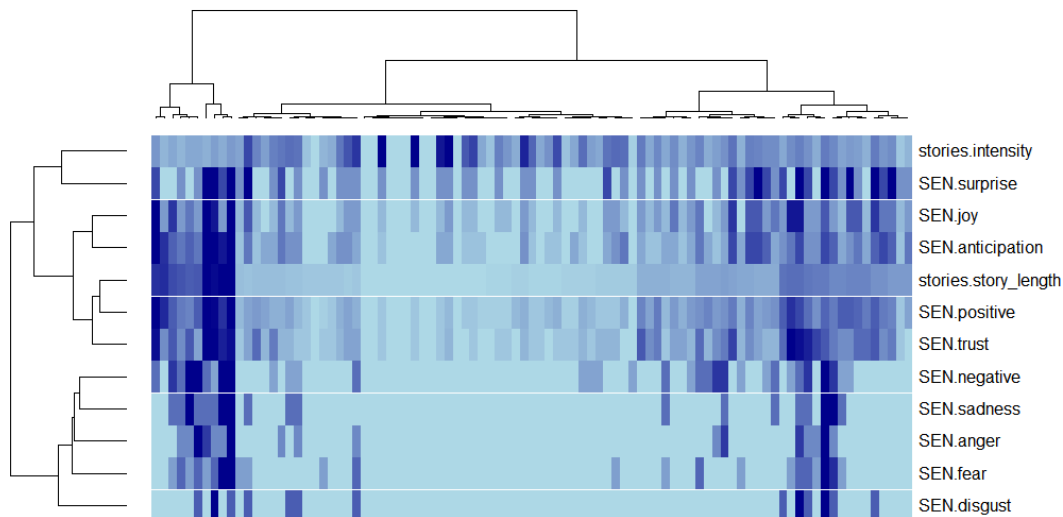
About 66% of respondents submitted at least one story.

There were altogether 91 stories including 6 second and 3 third stories.

The median was about 339 characters, equivalent to about two sentences. 13% were longer than 1000 characters.

The rest of the analyses in this section are done with the data set of 91 stories, together with the basic information for the respondents rather than the data set of 125 respondents. One could argue that this means that this data is slightly biased towards respondents who submitted more than one story.

Sentiment analysis



This diagram displays results from an automated sentiment analysis of the texts, together with the number of characters in each story. Darker colours mean bigger scores. The scores are in the rows, and the individuals are in the columns. A variable for “intensity” (number of words picked up by the sentiment analysis divided by the total number of words in the story) is also included. “Positive” is the sum of the positive items, “Negative” is the sum of the negative items. “Negative” does not really mean that the stories taken as a whole were negative: it can pick up, for example, phrases like “terribly good” or “stopped being bad”. Actually reading the stories shows that there were no predominantly negative stories, but there are one or two which are somewhat critical of GYA and one or two which describe negative situations which GYA helped to mitigate.

The “dendrograms” above and to the left of the main matrix show how rows and columns have been re-ordered to put more similar rows and columns together.

The rows unsurprisingly form two groups, with positive and negative sentiments, though there is also a small group at the top with “surprise” words like “amazing” and “incredible”, which are associated also with stronger “intensity” as defined above. Longer stories are more associated with positive sentiments.

The respondents fall into four groups

- a group of about 12 long stories (on the left) with a variety of sentiments
- nearly 50% in the middle who provided only very short stories
- another 20 medium-length stories with predominantly positive and few negative sentiments

Word cloud showing significantly different use of words between >40, <40: v. high sig: p<.001



Membership of a national Young Academy

NYA members, not surprisingly use the words “young” and “academy” more than the other respondents.

Word analysis for variable: Please tell us your most important positive story about the influence of GYA, in your own words. If you can’t think of any stories about how the GYA has influenced you, your institutions, your country, science or the world, please skip this section. by variable: **Are you a member of a National Young Academy or similar initiative?**

Word cloud showing significantly different use of words between Yes, No: high sig: $p < .01$



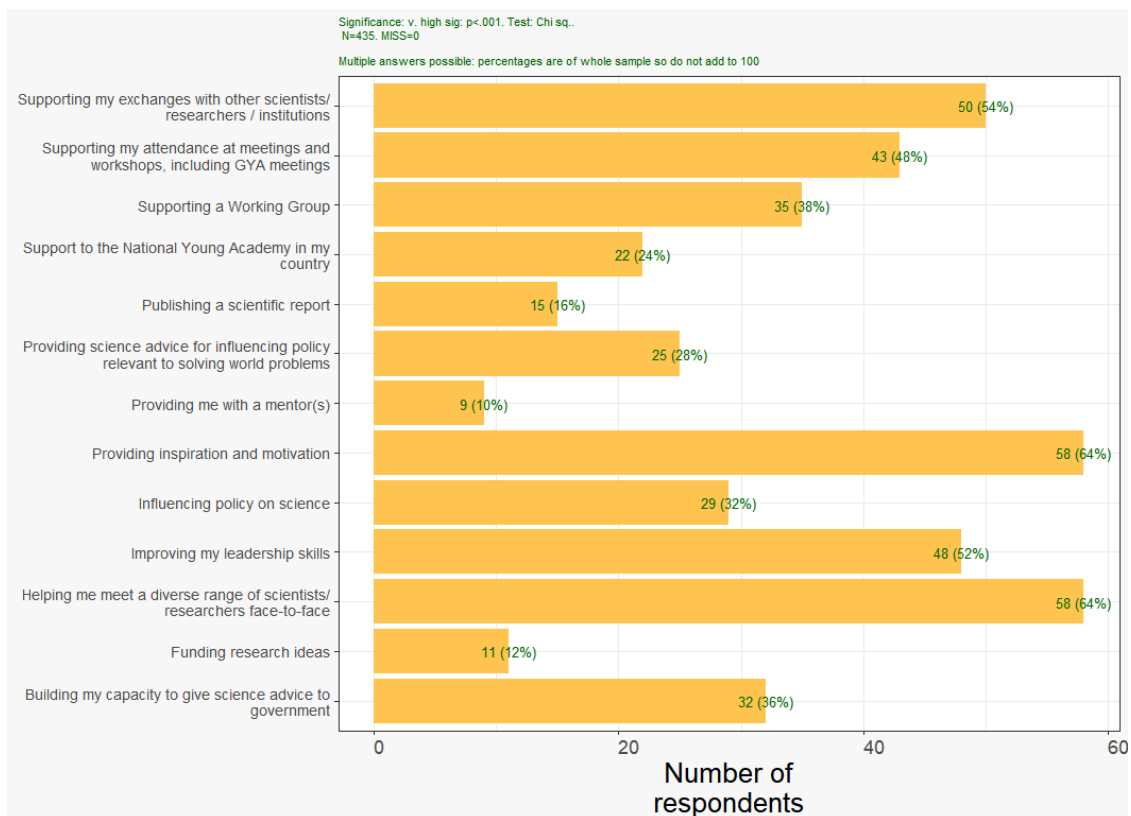
Types of assistance provided by GYA in stories

Being accepted as a member of the GYA gave me immense confidence boost...

The next set of analyses look at sets of closed, numerical questions which were posed to the respondents in relation to each story. Only the first story is analysed.

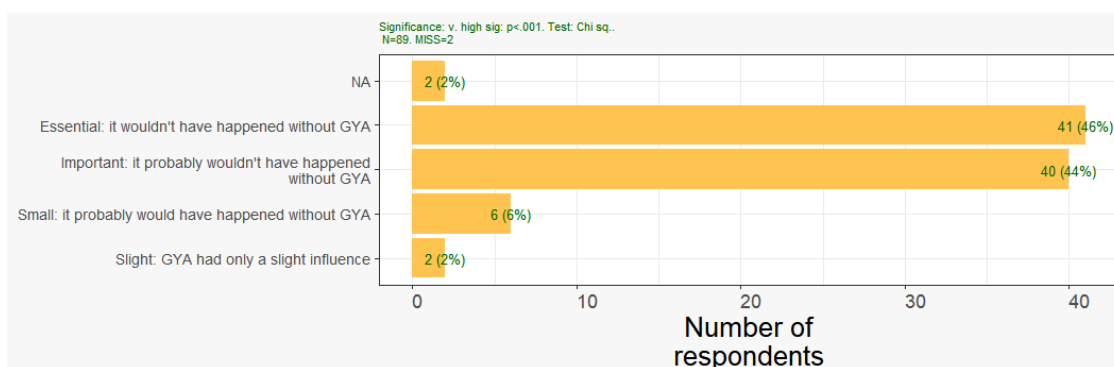
One set of questions asked about GYA assistance represented in the story.

The most frequent type of assistance was helping to meet a diverse range of scientists; the least frequent was mentoring.



How essential was GYA assistance in stories?

A single question asked how essential GYA assistance in the story was. Nearly 90% said it was “essential” or “important”:



Nature of achievements presented in stories

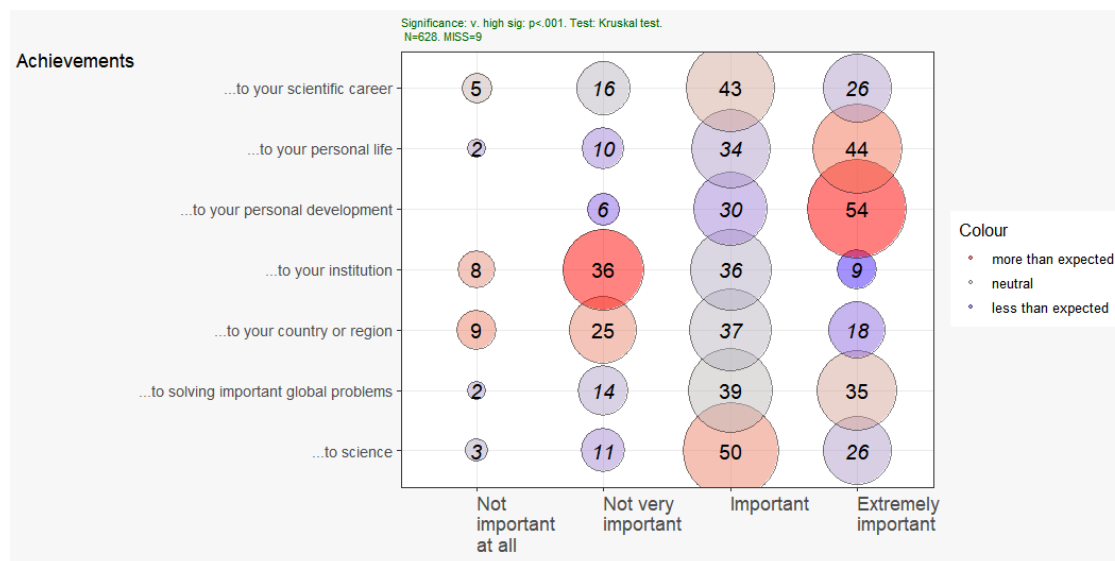
The GYA has profoundly affected how I think about cultural diversity.

The GYA has helped me to connect to a deep commitment I have to engage, to serve and to help build a better world.

These opportunities brought me to many places, and allowed me to experience diverse cultures and connect with varied individuals, but more importantly, gave me an opportunity to learn new things, enrich my skills, discover more of my talents, and think beyond my own research field.

This section gives the most important quantitative analysis of the influence of GYA. Respondents were asked, for each story, the importance of kinds of achievements, for which GYA had provided assistance.

There is overwhelming assent to statements about the importance of the different kinds of achievement. The most popular group of achievements centres on personal development, and also (if not quite so strongly) on individuals' careers, on science and on solving global problems. Influence on one's country and institution in the stories provided was on average between "important" and "not so important".

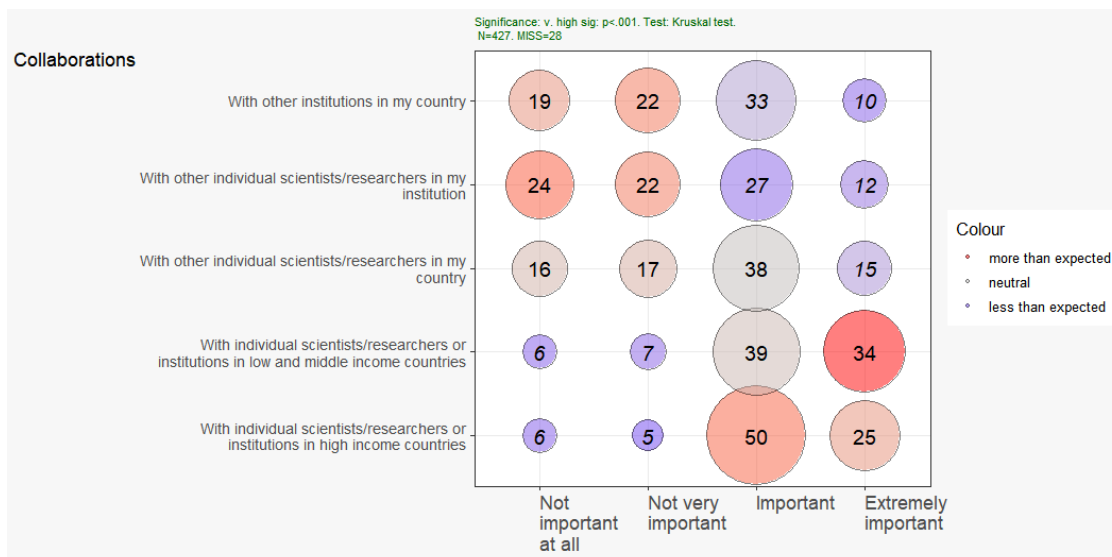


Collaborations in stories

Attendees think and talk about familiar and new ideas, about how to apply familiar ideas to new areas, and explore the scope for new cooperation across disciplines, countries and cultures.

Respondents were asked what kinds of collaborations were involved in their story.

The stories most frequently involved collaboration with individual scientists / researchers from a range of countries and, perhaps surprisingly, less with other individuals or institutions in one's own country:



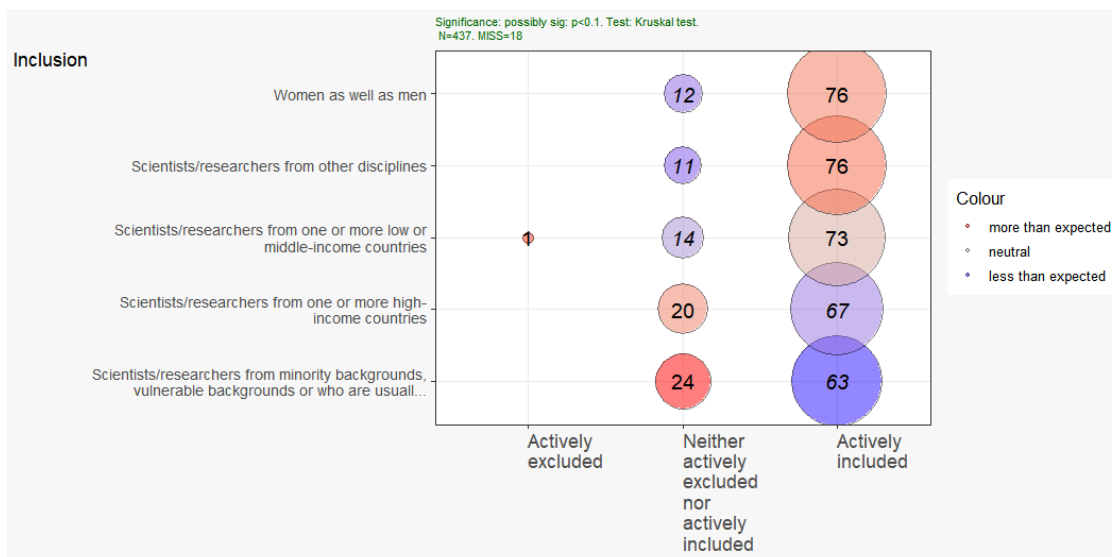
Inclusion in stories

To give one specific story, will be the ECs response to the request from our funders to have a GYA initiative in response to the EU immigrations 'crisis'. In 2016 there was so much media attention on immigration of refugees of war into Europe, and how Europe was going to deal with this 'crisis'. Whilst the fleeing of thousands of innocent people from war was truly a humanitarian crisis, the perspective in the media came more from this being a social 'crisis' for the countries to which the immigrant were fleeing, that they now had to 'deal with'. Thus, when the GYA held a meeting regarding Europe's response to this immigrant crisis, EC members from Africa countries brought to the table their objection to just an initiative, given the millions of refugees of war that Africa countries have been supporting for years, with no media attention. Their perspective was that in their countries, refugees were brought in and supported as brothers and sisters in need, not as invaders. This discussion will remain with me forever and continues to highlight the advantage to understanding a different perspective to global issues. but more importantly, the need to ensure that Europe and America do not dominate the conversation and perspective. That we continue to draw on the perspectives from a diverse experience.

Realising that science truly is global, and excellent science comes from every country on earth

Respondents were asked how different groups were included in their story.

... stories usually give evidence of active inclusion, especially of women as well as men and researchers from other disciplines; somewhat less of researchers from minority or vulnerable backgrounds. Although the news is good, this is not a very useful set of variables for analysis as there is a very high level of assent.

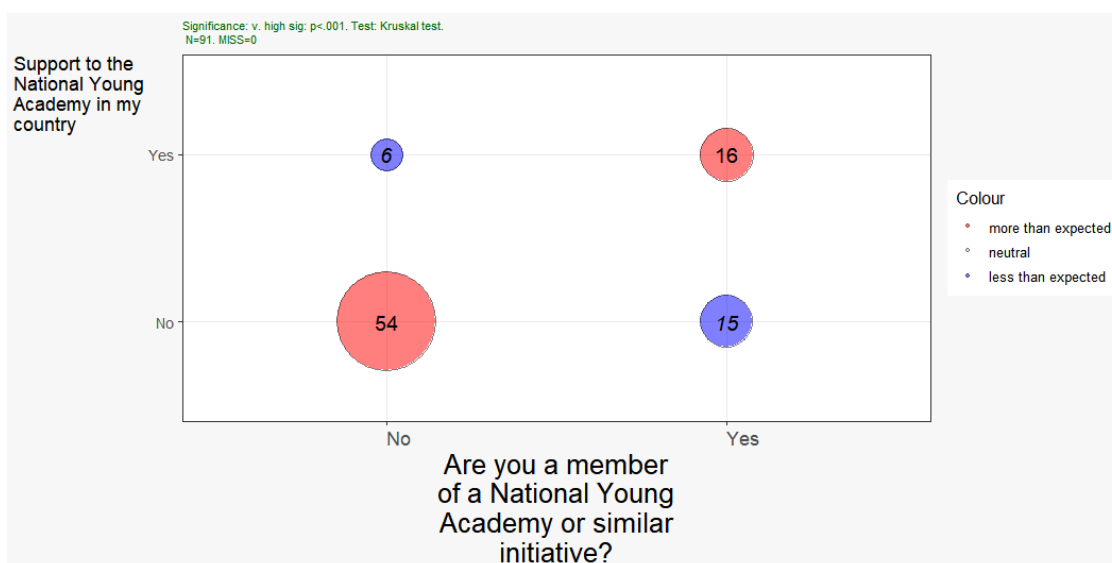


Significant relationships between background data and story variables

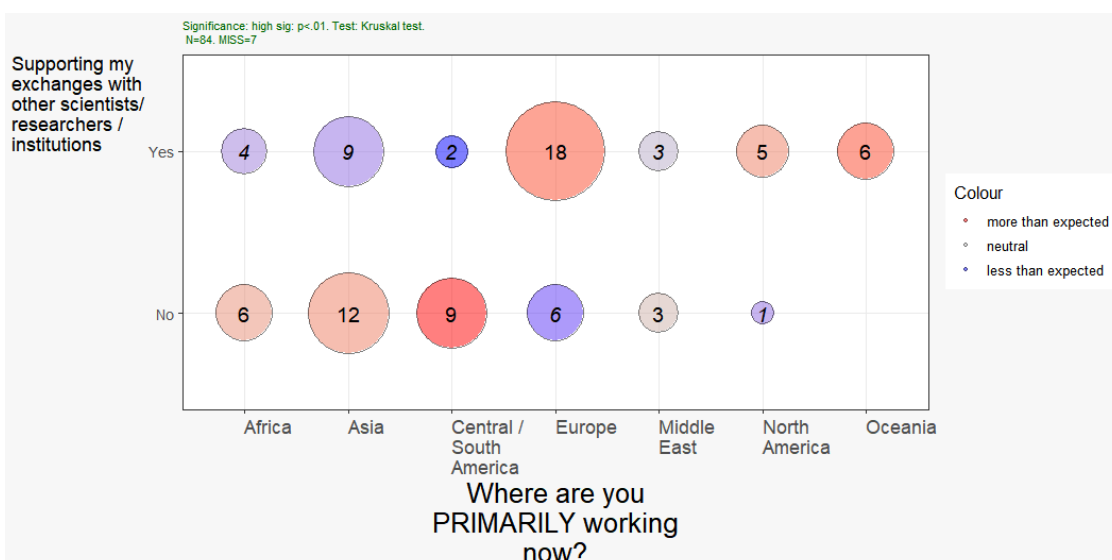
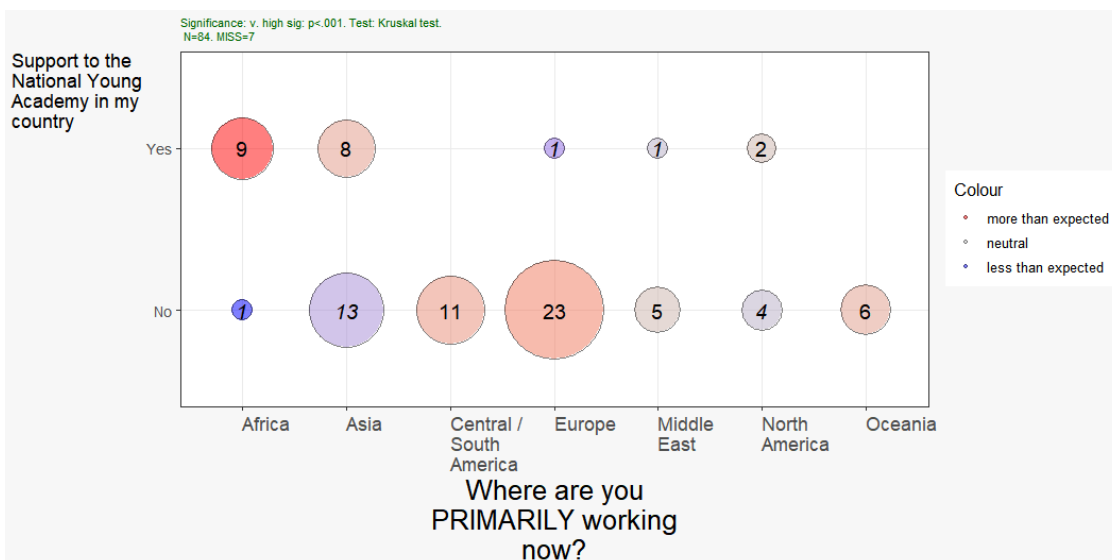
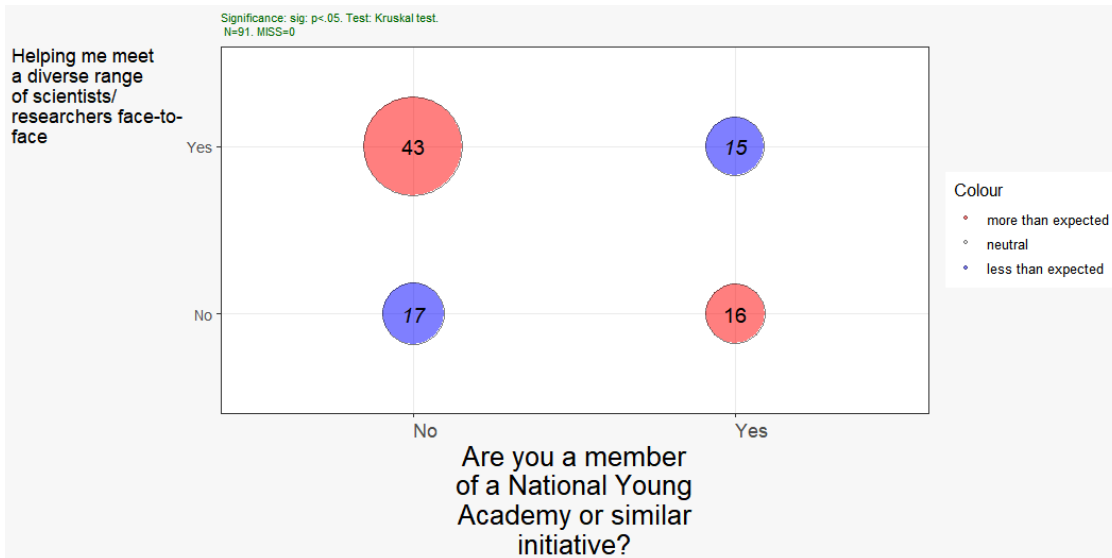
In this section, each of the story variables presented above (Assistance, Achievements, etc.) is tested to see if the answers differ significantly² according to the background variables – e.g., to see if older respondents answered differently from younger respondents, or if the answers differ by gender, etc. If no graphic is printed for a particular combination of question and background variable, it means that there was no significant difference.

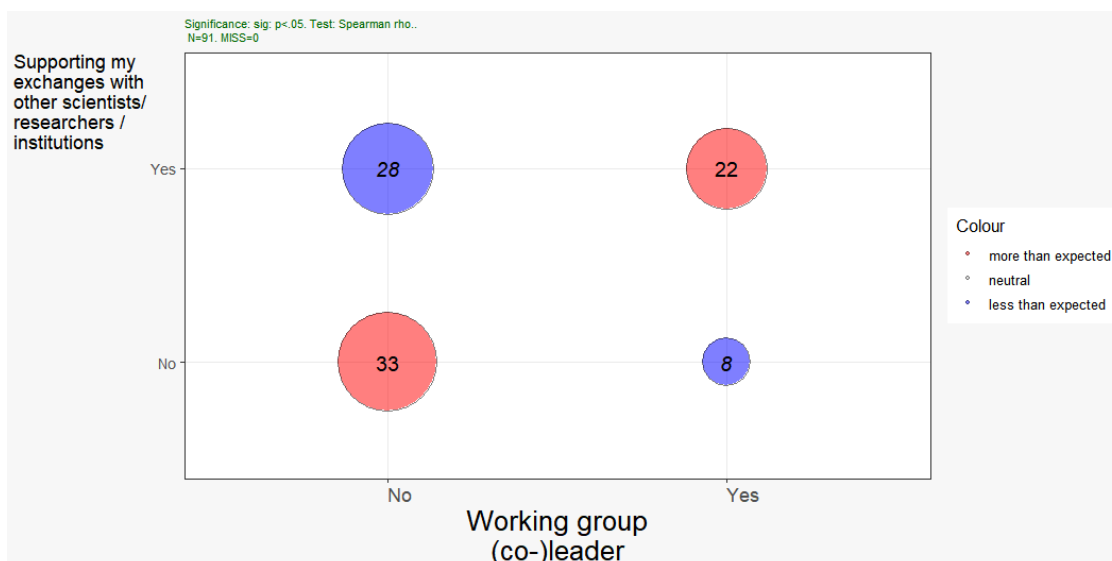
Assistance

- NYA members were of course more likely to have received support for their NYA - these were often in Africa - and less likely to have received support for attending exchanges with researchers
- attending exchanges with researchers was reported more frequently in Europe.



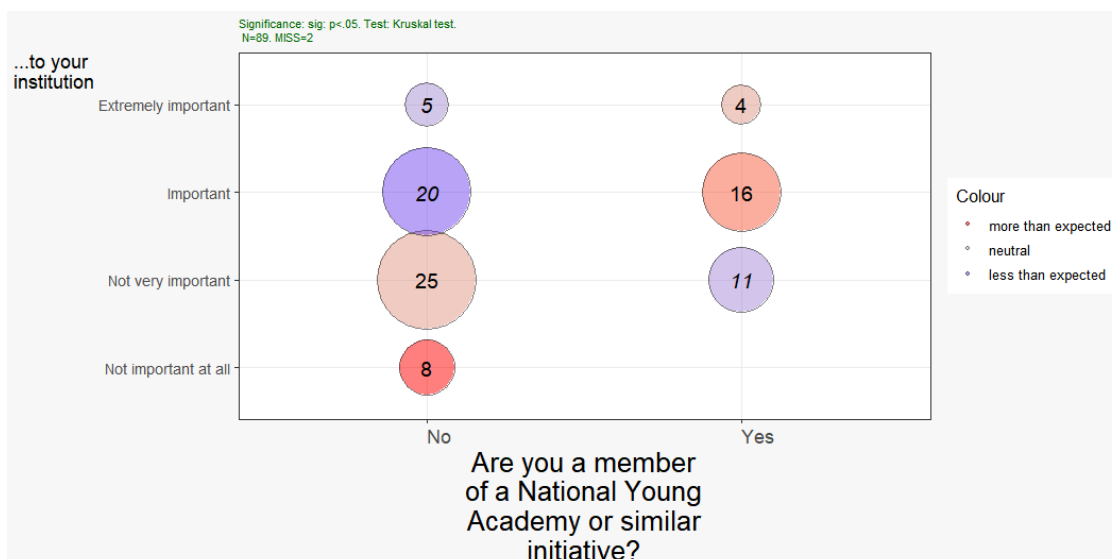
² significance level $p < 0.5$

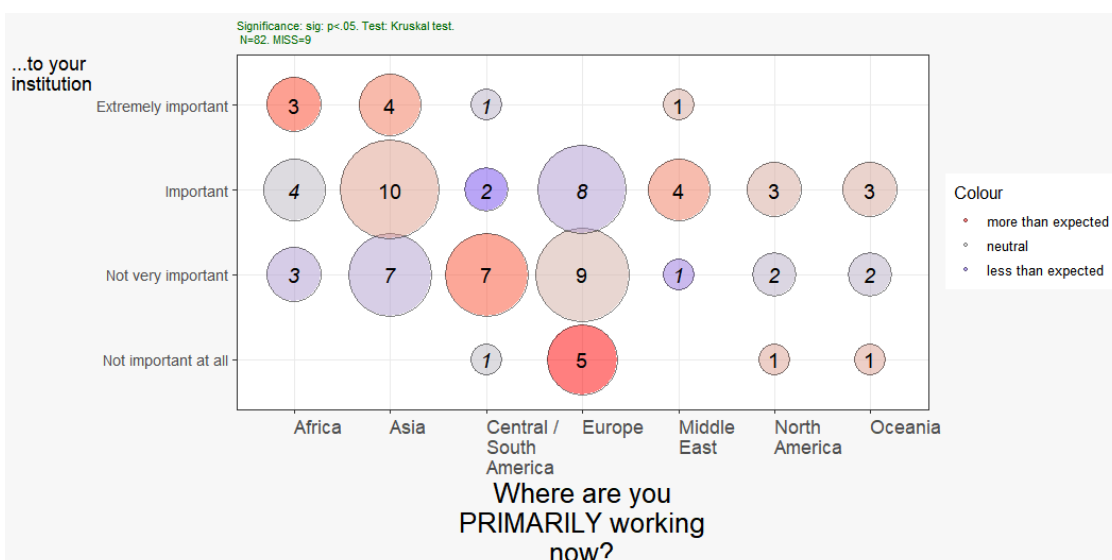
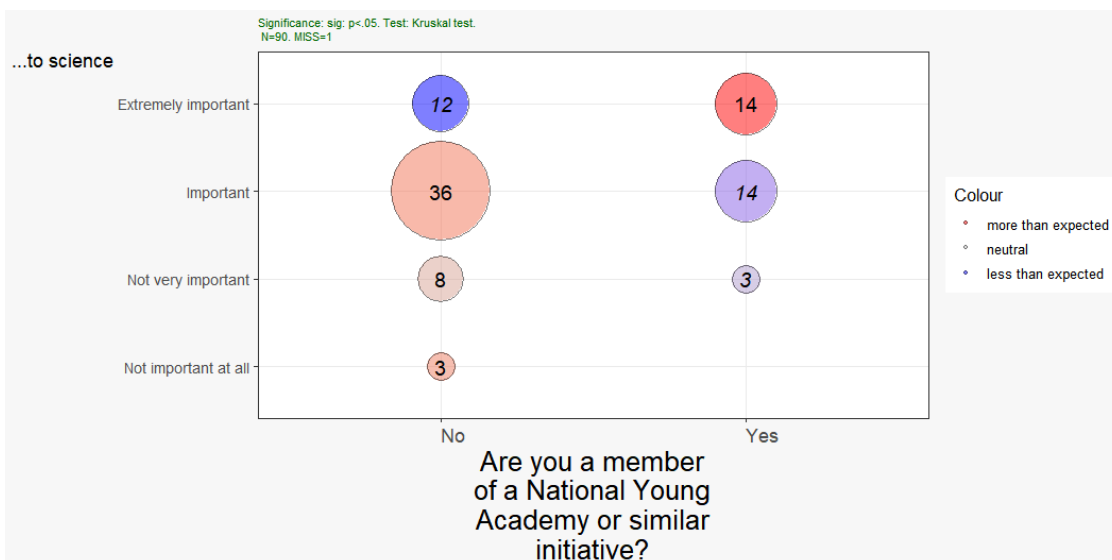
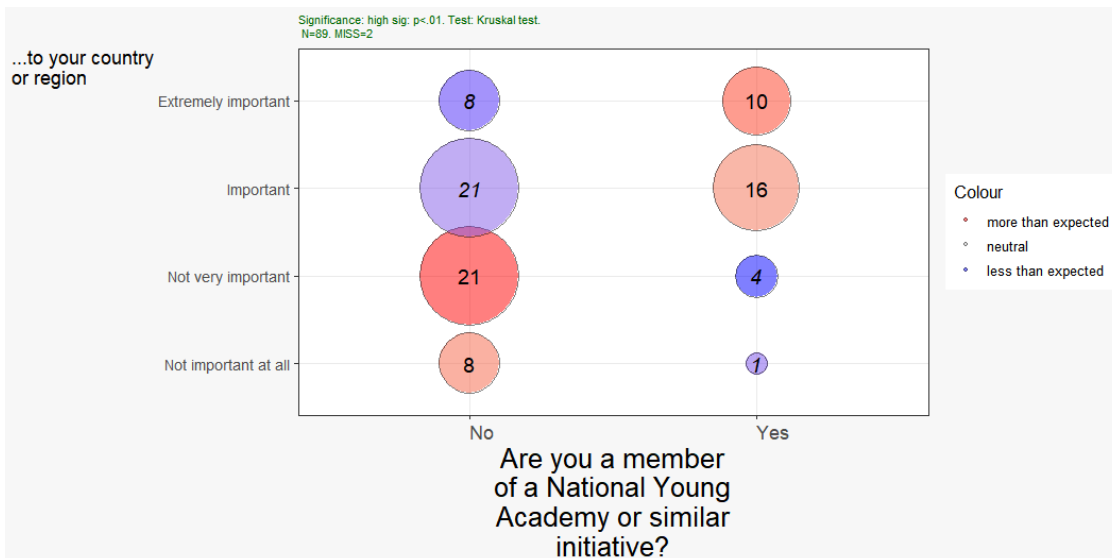


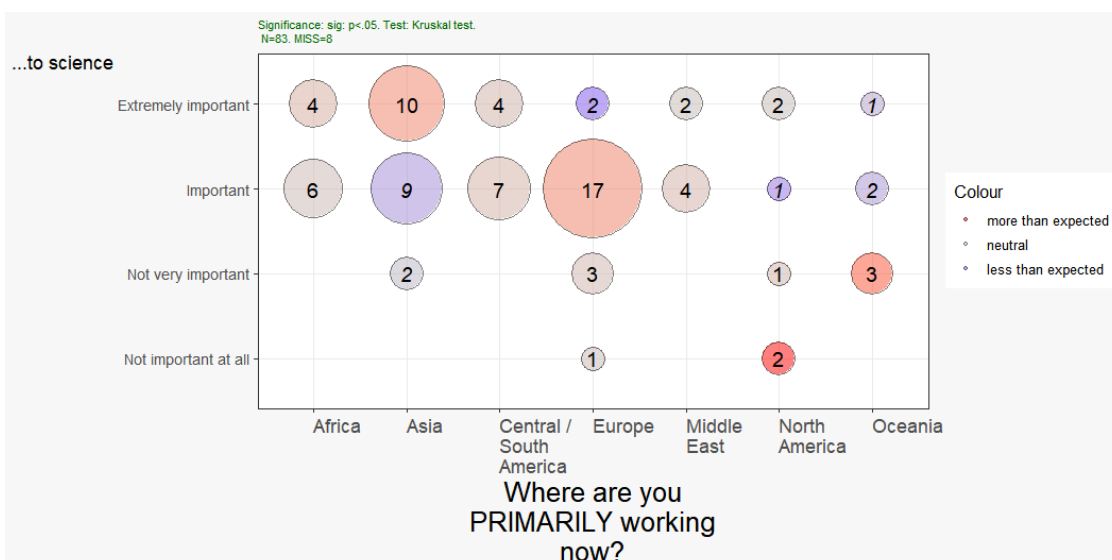
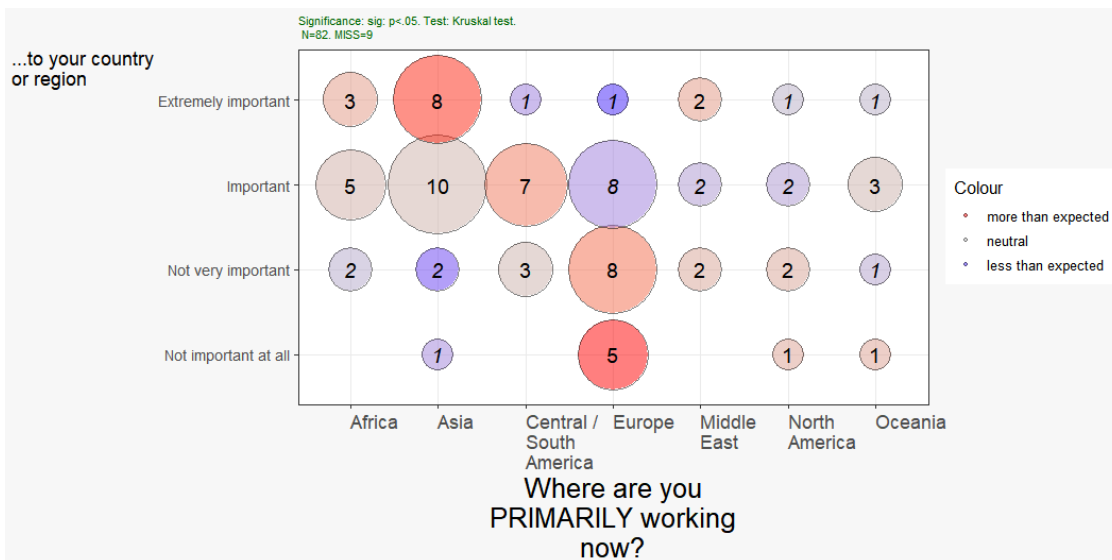


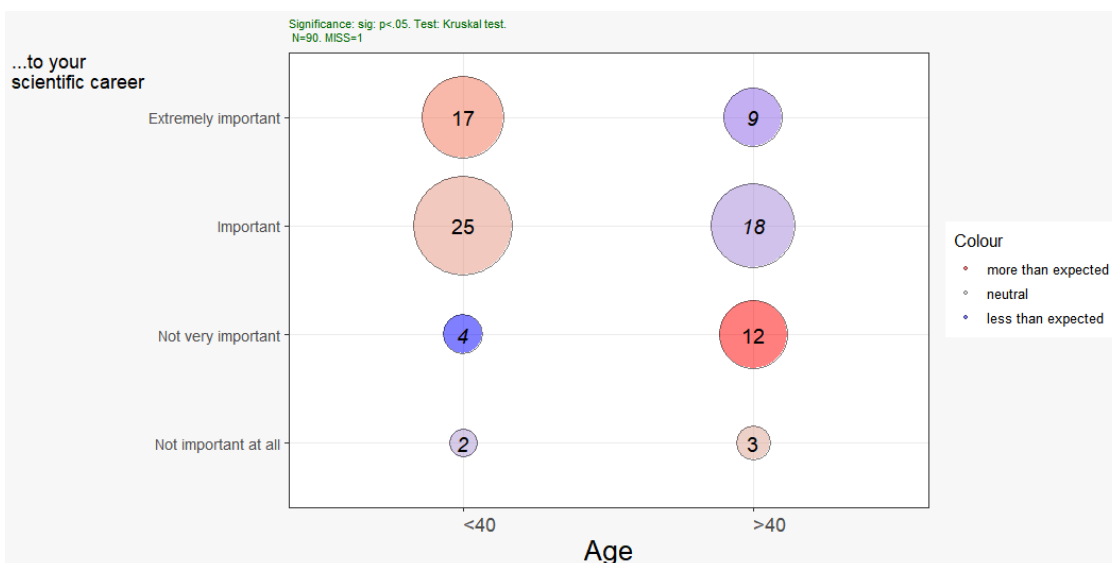
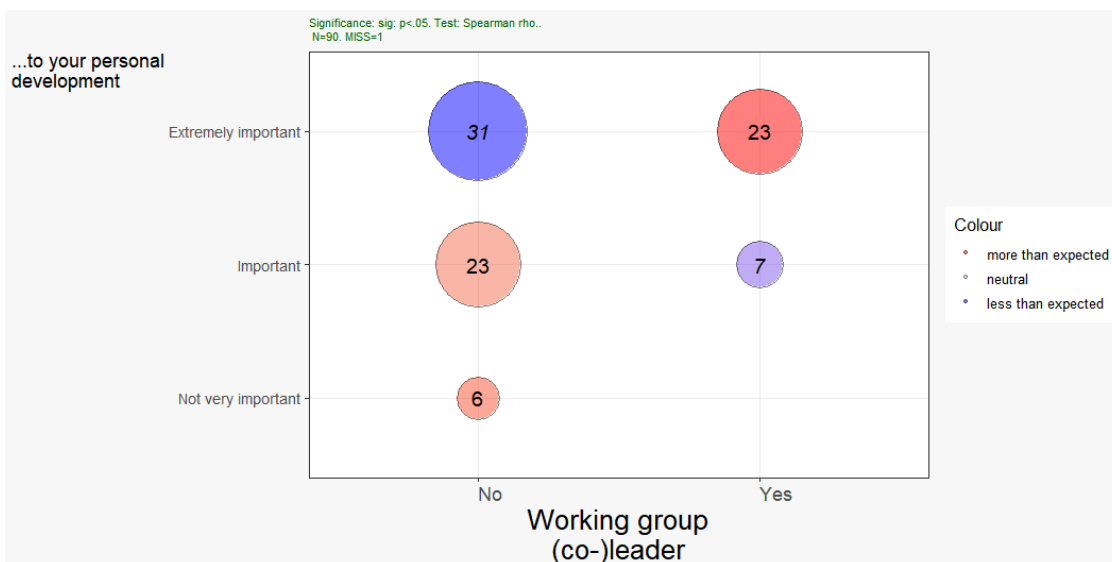
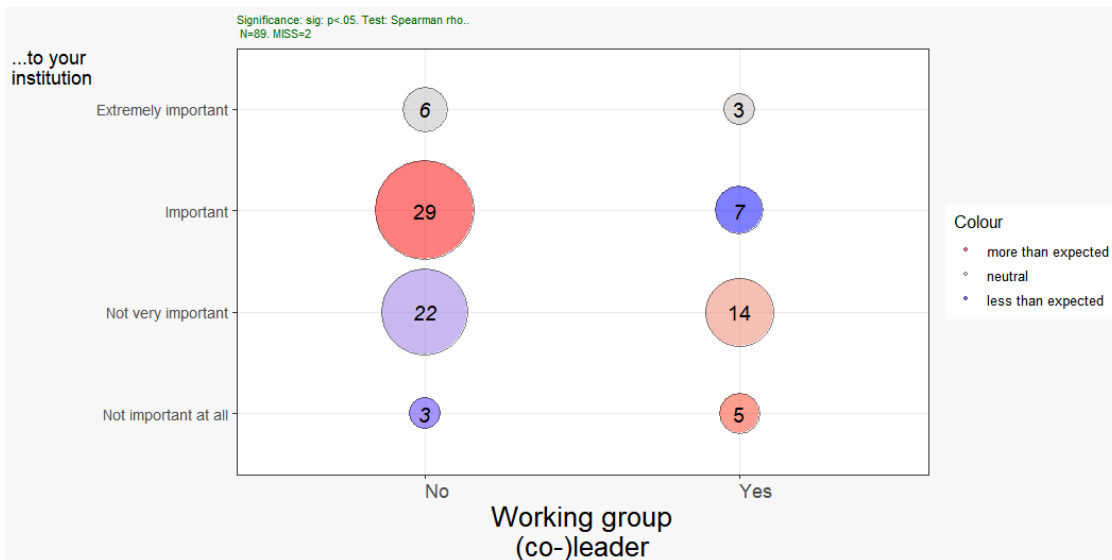
Achievements

- Members of National Young Academies were more likely to mention achievements related to their region or country, but also to science. Europeans were less likely to rate these achievements highly.
- Younger people were more likely to value impact on their careers.



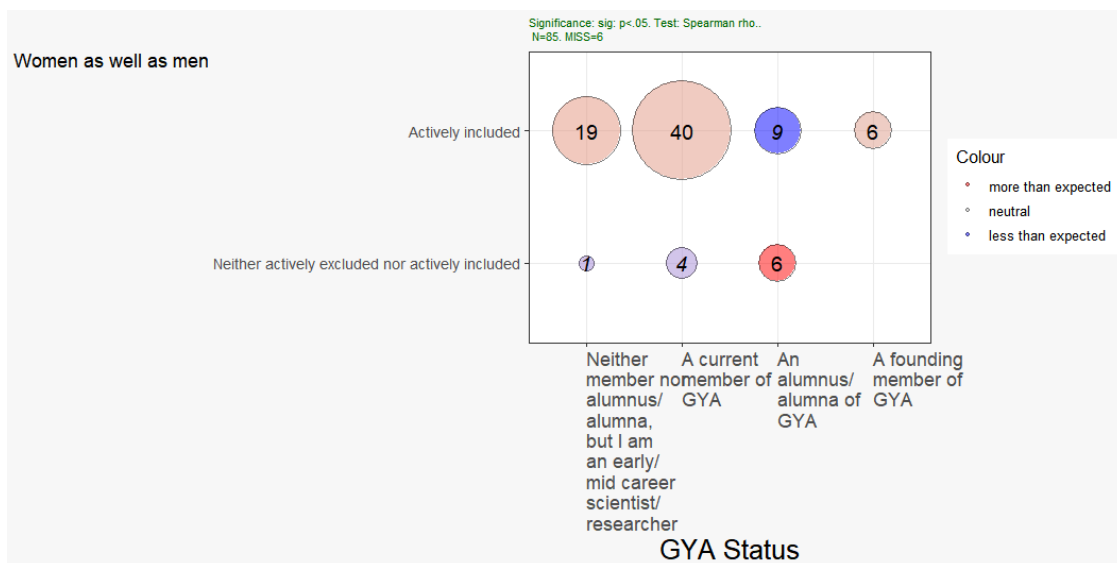
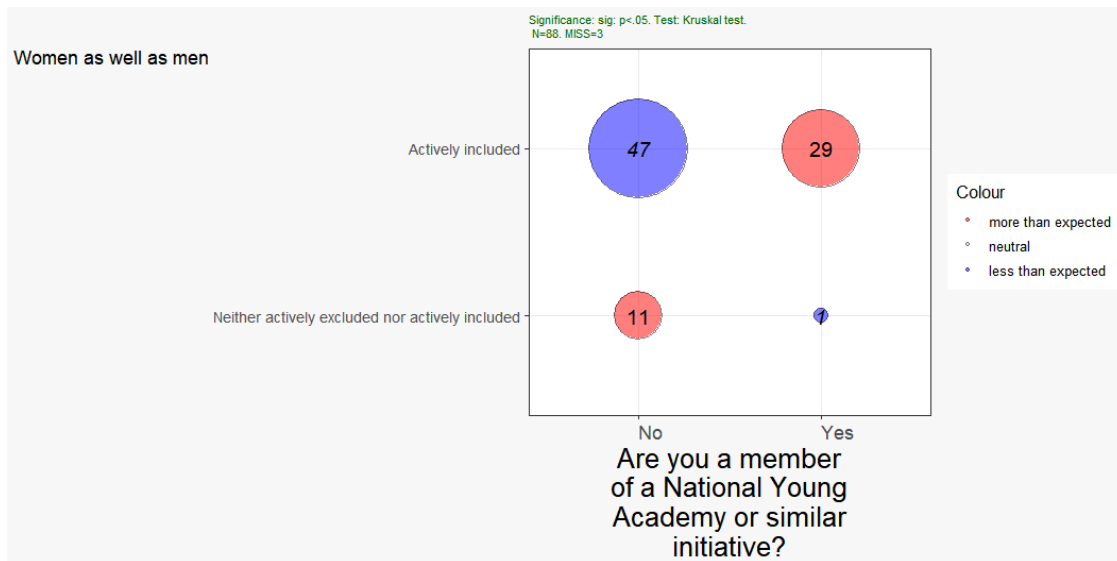






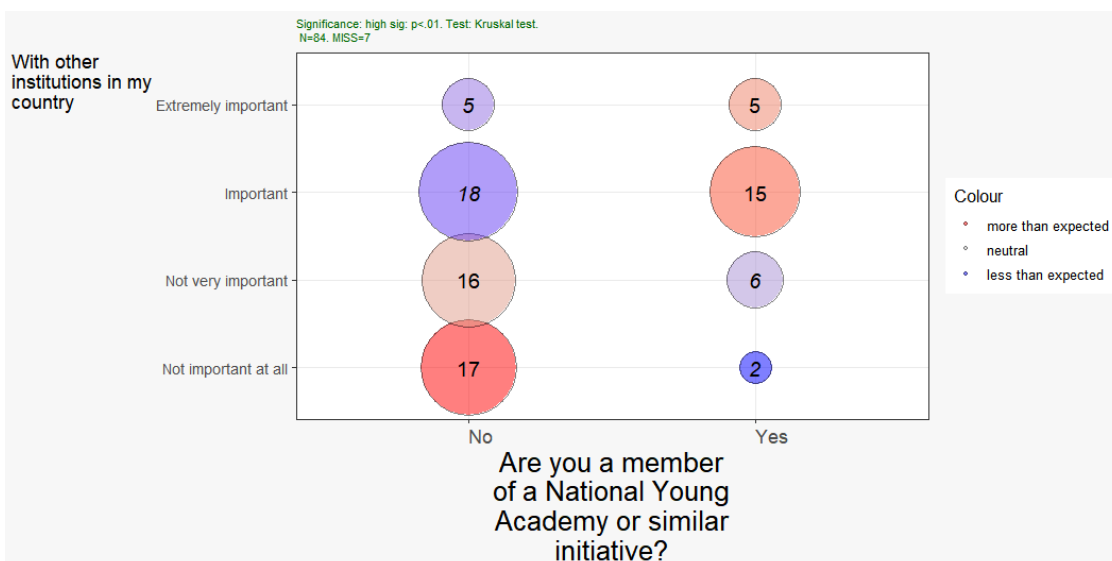
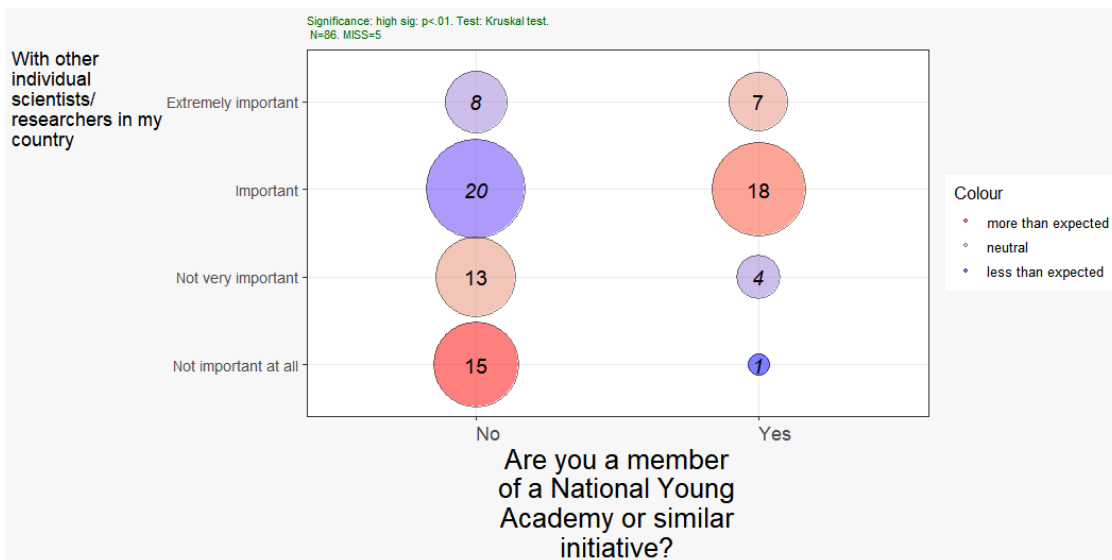
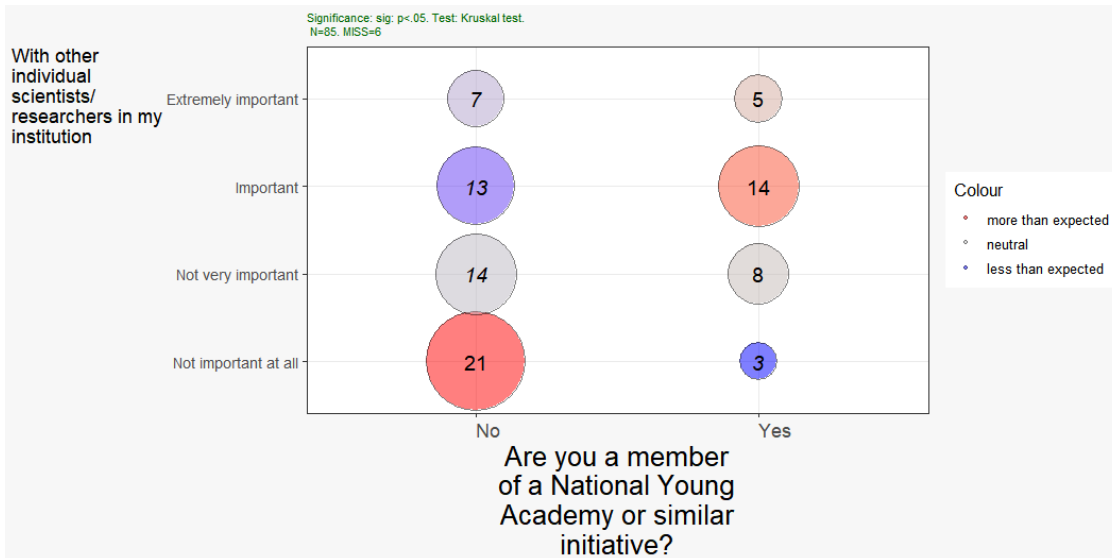
Inclusion

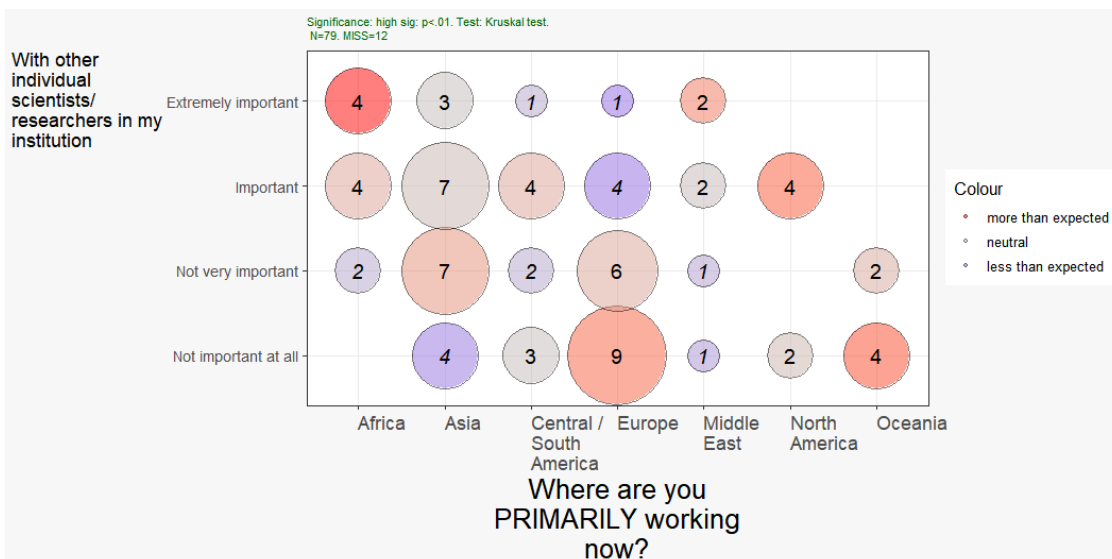
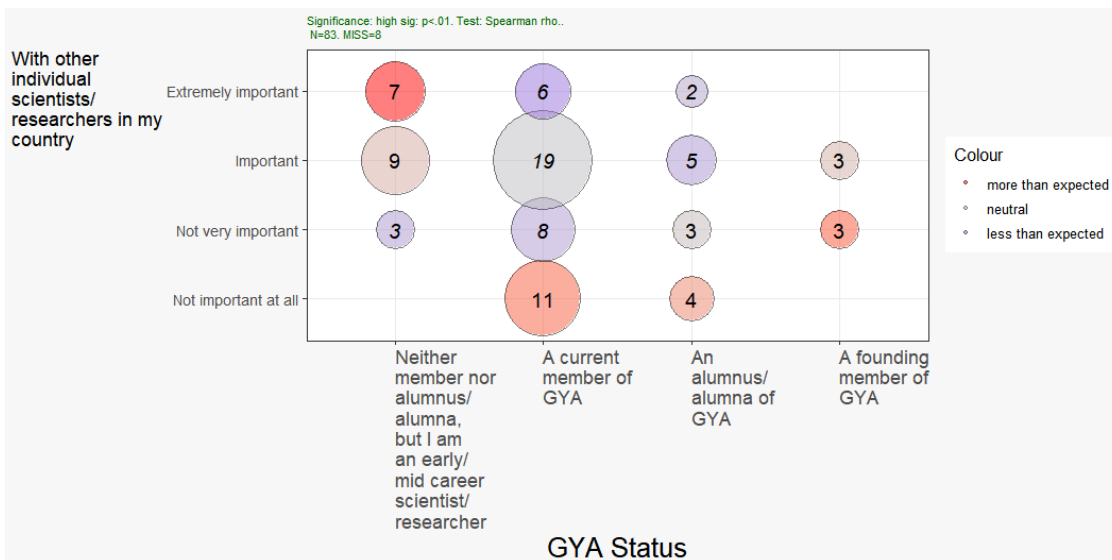
National Young Academy members were more likely to mention the active inclusion of women.

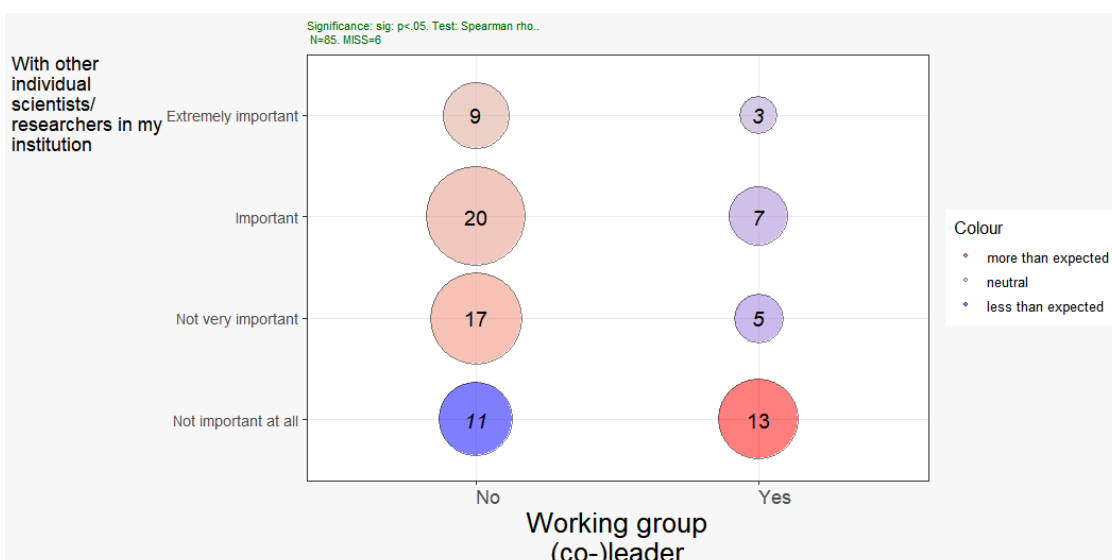
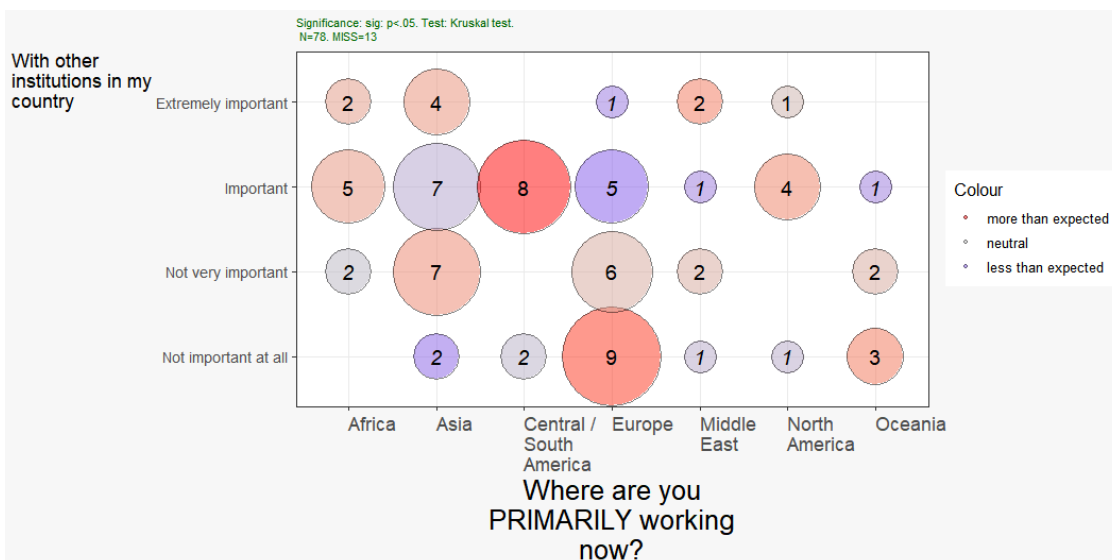
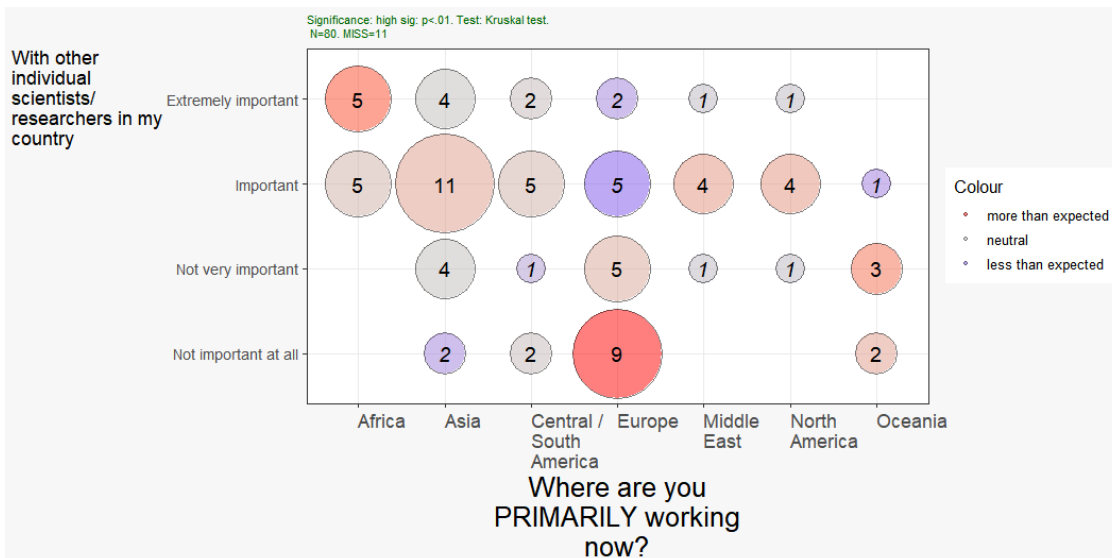


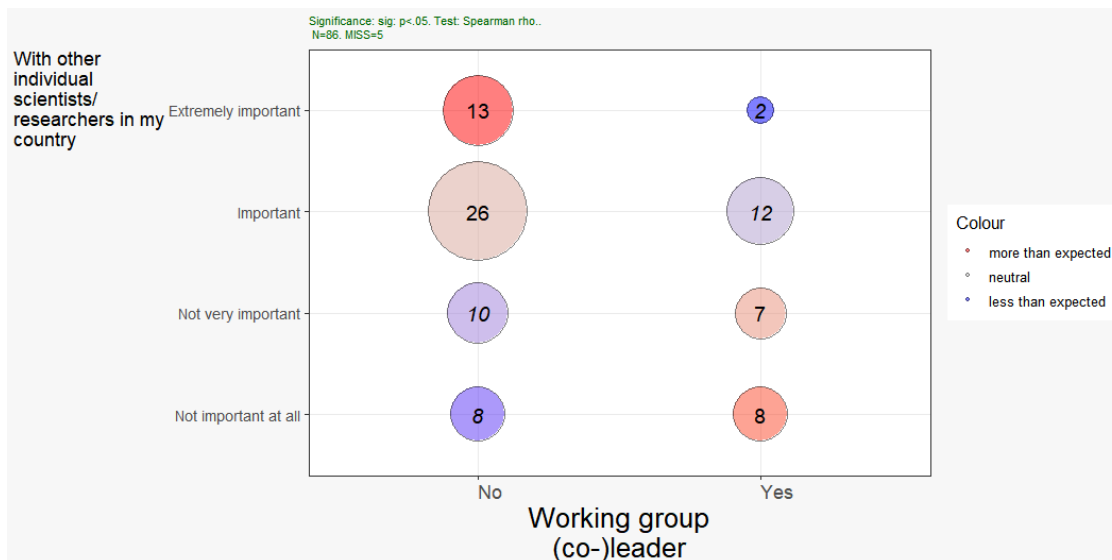
Collaborations

- Members of national Young Academies were more likely to mention collaboration within their institution or country.
-









Qualitative analysis: Empirical Theory of Change

Method

The stories were analysed looking for examples of *A leading to B* - for example, where someone said “I loved the regional meetings because they helped me widen my professional network”³. Then all the *As* (like, “regional meetings”) and all the *Bs* (like, “wider professional network”) were listed

³ We actually coded each sentence within each story looking for links between *As* and *Bs*. Sometimes one sentence contained multiple links. So for example, if someone said “A led to B and C, and C led to D”, we coded four links – from A to B, A to C, B to D and C to D.

and grouped into themes following standard procedures in qualitative social science. These themes are shown as circles in the diagrams below. We found three groups of themes:

- different inputs from GYA – on the left of the diagrams.
- influences on individuals – in the middle of the diagrams.
- impacts beyond individuals – at the right of the diagrams, such as doing science aimed at solving global problems.

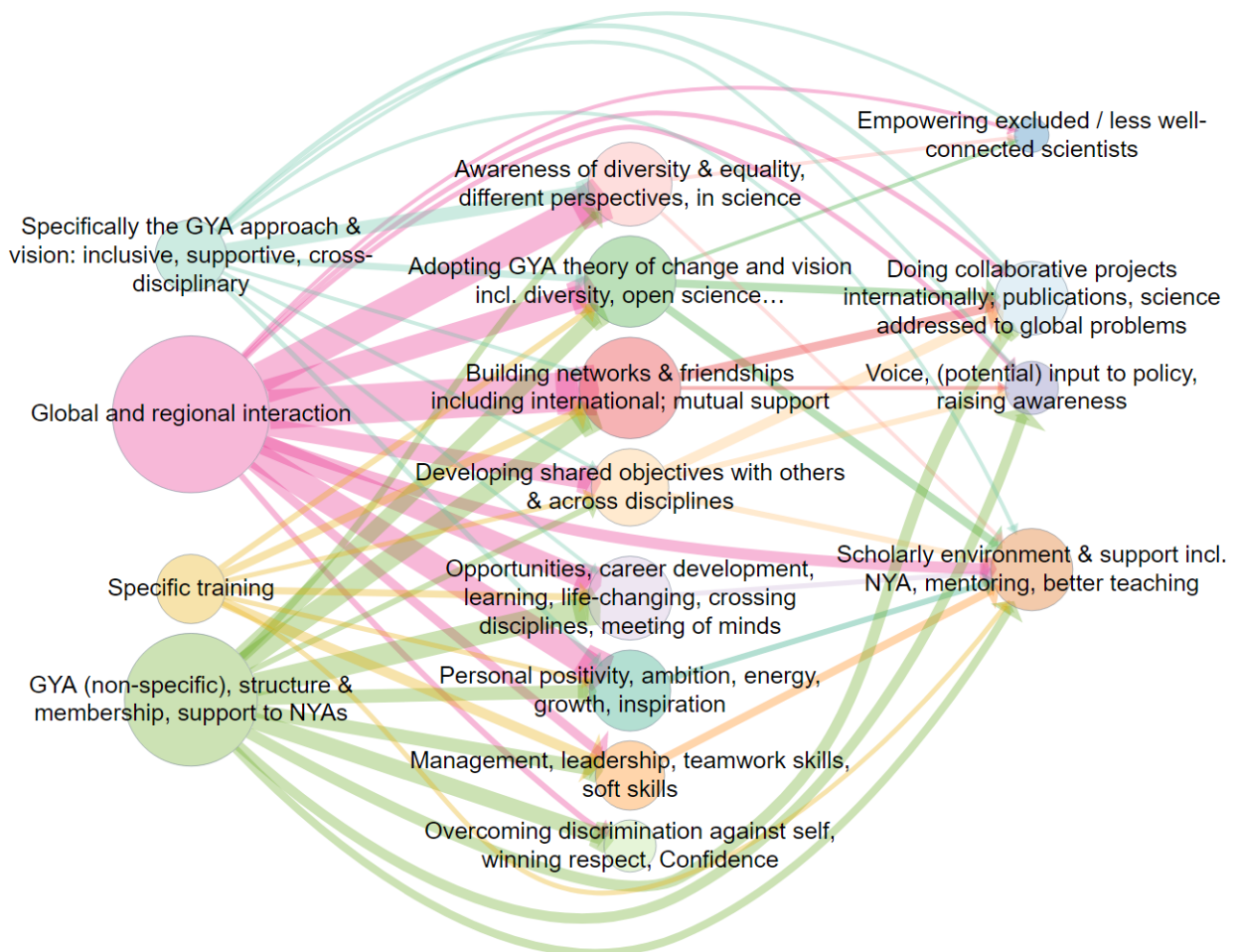
In the diagram, the area of the factors corresponds to how often people mentioned them. The width of the arrows show how often people said that one factor (like, “Global and regional interaction”) led to another (like, “Opportunities and career development”).

Sentences were assigned to categories if they gave any indication that the link might really exist. So “It would be great if A led to B” or “A means now I am thinking about B” were not classified as a link between A and B, whereas “A is now starting to lead to B” was so classified. Classifying one sentence with more than one A or B did not necessarily mean that the link was stronger, only that there were several ways to classify it. But where a sentence could be classified with both a specific and a less specific category, only the specific category was applied. So for example “GYA non-specific” was used where the specific GYA input was not clear, but it was not also used where a more specific category could be applied.

We coded a sentence into a given category regardless of whether respondents said it happened to them or to other people.

Where necessary, some sentences were assigned to a specific category as part of a link when one end of the link was not specifically stated in the given sentence but was clearly implied by the sentence immediately preceding it. So in “The leadership workshop was great. It taught me leadership skills”, the second sentence would be coded as “Specific training” leading to “Management ... skills” even though the training was not explicitly mentioned in it.

Findings



In total, 423 causal links were mentioned, of 53 different types. Only a small minority of stories actually provided *specific, concrete evidence* for such links. But there was a rich range of narratives. Links which appeared in only one story were excluded from the diagram.

Overall comments on the diagram:

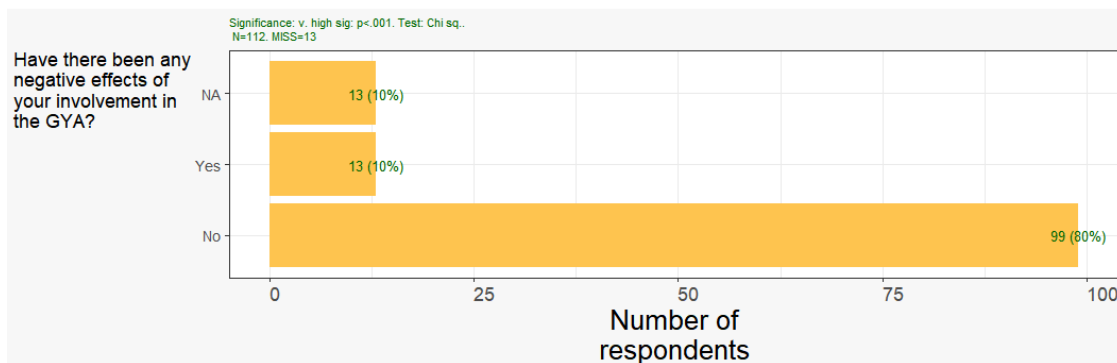
- the data provides an empirically-derived Theory of Change for GYA based on participants' own stories.
- different inputs from GYA: By far the most common input was global and regional interaction, in particular, meetings. Also, people often just mentioned GYA and membership of GYA in a generic way.
- influences on individuals: A lot of different factors were mentioned. One very interesting effect was when respondents said things like "interacting with these new colleagues made me understand GYA's overall vision for the first time – how inputs from a wide variety of countries is essential to doing more relevant science". (This was classified as "Adopting GYA Theory of Change and vision").
- impacts beyond individuals: As well as people telling us about links from GYA inputs to personal factors and then on to impacts, sometimes they told us about links directly from GYA inputs to impacts. Overall, fewer sentences mention these effects "beyond individuals", but there is quite a broad range of them. There was not enough data to discern any differentiation within these factors, e.g. from "better science" to "better policy".

Example stories

Example stories for some of the links:

- GYA Membership → Confidence: “Winning the membership itself has given me a strong motivation and confidence to speak up my thoughts and vision regarding young scientist’s role in advancing science, health, and research in all regions of the world.”
- Global and regional interaction → Building networks ...: “In simple words, these opportunities had a huge impact in my life: (1) I met incredibly inspiring colleagues from around the world that think like me, making me feel like I’m not alone which is often difficult when you are one of the few STEM PhDs in a tiny Caribbean island.”
- GYA (non-specific) → Scholarly Environment: “... I feel that the existence of GYA is very important because it acts as a cohesive network for all other Young Academies”
- GYA (non-specific) → Doing collaborative projects ... : “Another GYA member and I have a joint research grant together ... In addition, we also had a joint research publication in a very high impact journal”

Negative consequences



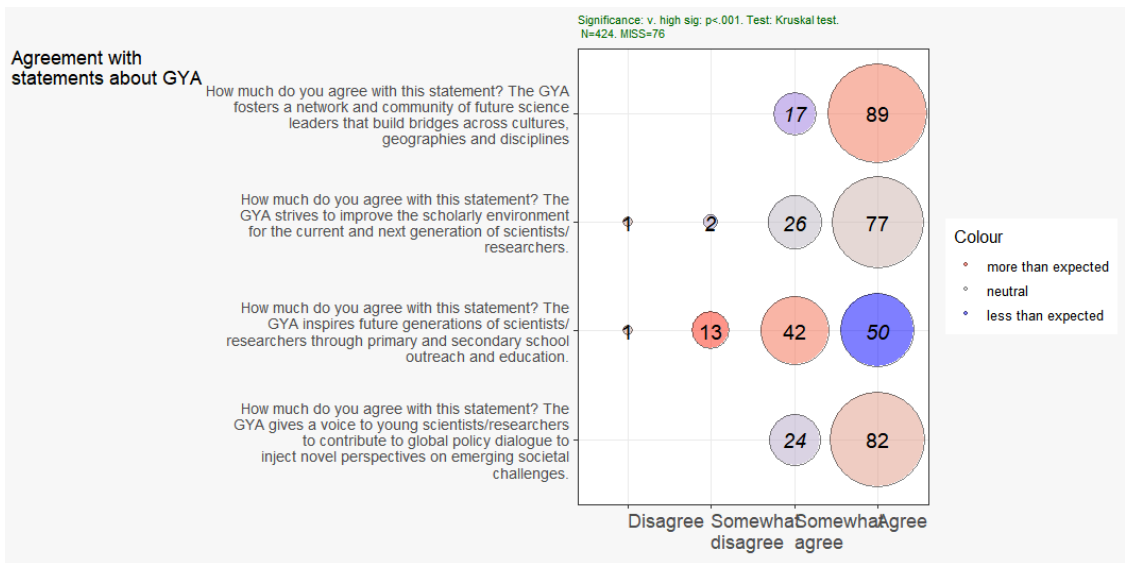
Two of the responses reflect lack of time. There were two responses which were critical in different ways of GYA.

Please describe these negative effects

Total number of respondents who answered: 13

Approximate total number of words: 806

About GYA



... there is strong agreement with all the statements, though less so on primary and secondary outreach and a little less so on scholarly environment.

How much do you agree with this statement? The GYA fosters a network and community of future science leaders that build bridges across cultures, geographies and disciplines

What would you add or change to this statement to best describe what GYA does?

Total number of respondents who answered: 38

Approximate total number of words: 649



Qualitative analysis

There were some useful comments about the precise formulation (e.g. ‘scholar’ not ‘researcher’), and these about the content:

- 5 said it is not only future but also current
- 3 said it is not only about leaders
- 5 said it is also about finding solutions to global problems

[If you have any ideas about how GYA can get better at its activities in this area, please write them here](#)

Total number of respondents who answered: 34

Approximate total number of words: 1273



Qualitative analysis

The most common theme was inequalities.

- 3 said there should be more focus on Caribbean, Latin and South America
- 1 said there should be more support to poor researchers within HICs; there are some rich researchers in MICs and LICs
- 1 said there should be a cap on including researchers from one place

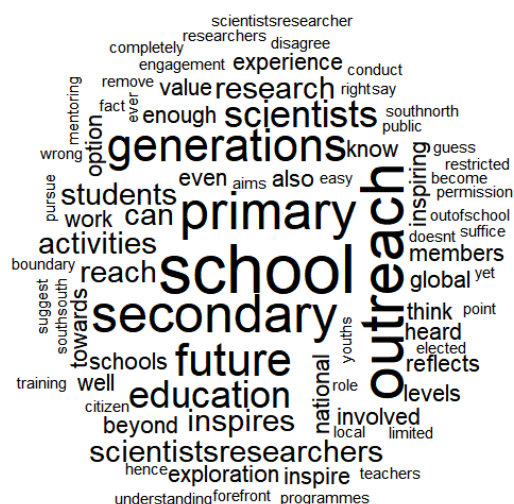
Also, 2 said there should be more training.

[The GYA inspires future generations of scientists/researchers through primary and secondary school outreach and education](#)

[What would you add or change to this statement to best describe what GYA does?](#)

Total number of respondents who answered: 25

Approximate total number of words: 548



Qualitative analysis

- 5 said they didn't know enough about it.
- 2 said it isn't important and shouldn't be a priority
- 4 said it shouldn't just be about primary and secondary students but also tertiary (one also said out-of-school children); another said it should be not just about inspiring them to becoming researchers but also just more inquiring

If you have any ideas about how GYA can get better at its activities in this area, please write them here

Total number of respondents who answered: 25

Approximate total number of words: 739



Qualitative analysis

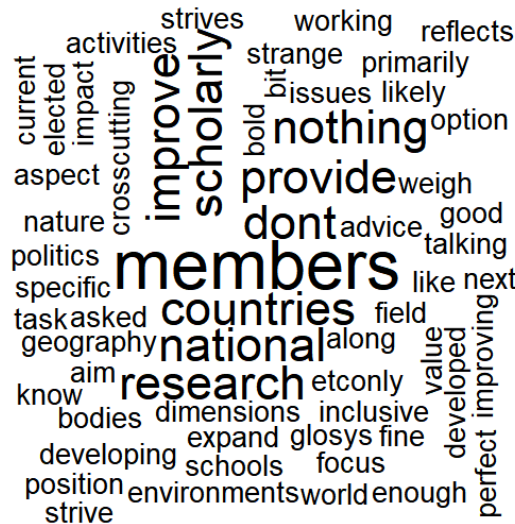
There was an assortment of suggestions, some supporting outreach activities and suggesting ways to do it, others questioning its effectiveness.

The GYA strives to improve the scholarly environment for the current and next generation of scientists/researchers

What would you add or change to this statement to best describe what GYA does?

Total number of respondents who answered: 21

Approximate total number of words: 287



Qualitative analysis

Analysed together with next question as there were not many responses altogether and a lot of overlap between the two questions.

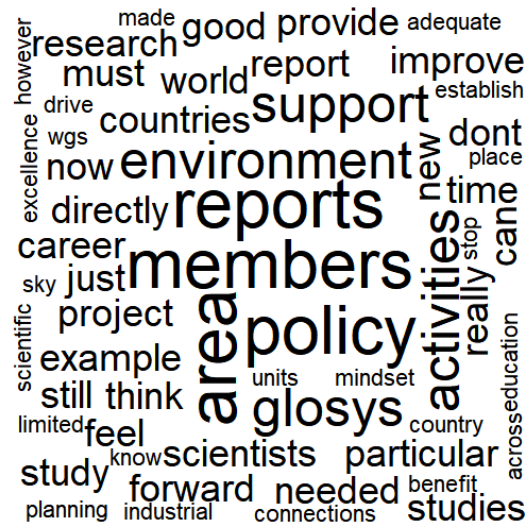
- 5 just expressed approval
- 3 suggested expanding GloSYS (The Global State of Young Scientists Project)

A lot of approval and a small number of additional comments.

[If you have any ideas about how GYA can get better at its activities in this area, please write them here](#)

Total number of respondents who answered: 15

Approximate total number of words: 621



The GYA gives a voice to young scientists/researchers to contribute to global policy dialogue to inject novel perspectives on emerging societal challenges

What would you add or change to this statement to best describe what GYA does?

Total number of respondents who answered: 16

Approximate total number of words: 310



Qualitative analysis

Analysed together with next question as there were not many responses altogether and a lot of overlap between the two questions.

- 4 just expressed approval
- 3 pointed out that not all challenges are “emerging” but still important

- 2 pointed out that GYA in fact mostly enables those young scientists/researchers who are its own members, others less so.

If you have any ideas about how GYA can get better at its activities in this area, please write them here

Total number of respondents who answered: 15

Approximate total number of words: 321



Significant relationships between background data and agreement with statements about GYA

In this section, each of the variables presented above in the section “About GYA” is tested to see if the answers differ significantly⁴ according to the background variables – e.g., to see if older respondents answered differently from younger respondents, or if the answers differ by gender, etc. If no graphic is printed for a particular combination of question and background variable, it means that there was no significant difference.

There are none.

In a maximum of three sentences, how would you describe the GYA to someone who had never heard of the organisation?

Total number of respondents who answered: 55

⁴ significance level p<0.5



The majority of the respondents said that they learned a lot. However there were some detailed criticisms too.

Anonymity

Permission to be contacted again (rows) by permission to use verbatim stories (columns).

	I allow GYA to analyse my stories and present aggregate data, but not to use the verbatim text from my stories	I allow GYA to use my stories and other text information I have given here verbatim (anonymously)	NA
No	16	19	0
Yes	10	57	0
NA	0	1	22

Authors

Steve Powell and Anamaria Golemac Powell (independent consultants commissioned for this assessment) contributed to finalising the survey tool, conducted the survey, and led the analysis of the results and write up.

Tolu Oni (GYA co-chair 2017-19) led this project, created the first draft of the survey questions, and worked closely with Steve Powell on the data analysis and interpretation, and report write up.

GYA Executive Committee 2018/19: provided input into results interpretation.

Impact Assessment Survey Tool

Welcome

Welcome to the GYA survey. This is part of a self-evaluation which GYA is conducting to assess our achievement of our strategic goals. We really appreciate you helping us in this evaluation.

In the main part of this survey we ask you to tell us about stories of how GYA influenced you. It would be really helpful if you would take the time to tell us one or more personal stories which will help us to illustrate what GYA does and how it can improve.

Every time you finish a page by clicking "Next", your survey is saved. You can return to it later by clicking again on the link in your invitation email.

About you

* 1. Are you:

- A current member of GYA
- A founding member of GYA
- An alumnus/alumna of GYA
- Neither member nor alumnus/alumna, but I am an early/mid career scientist/researcher
- Other (please specify)

For alumni / alumnae

2. In which year did you become an alumnus/alumna?

For members

3. In which year did you become a member?

Your roles

4. Did/do you play any of the following roles within the GYA? (Check all that apply or none if not applicable)

- Executive Committee member (co-chair)
- Executive Committee member (not co-chair)
- Working group (co-)leader

For leaders

5. Given the leadership role(s) you have played in the GYA, please reflect on your OWN experience of LEADERSHIP in the GYA, including lessons learned that have been applied to your professional life



More about you

* 6. Are you a member of a National Young Academy or similar initiative?

Yes

No

7. Your gender?

Female

Male

Other

Prefer not to say

8. How old are you?

<25

26-30

31-35

36-40

41-45

46-50

>50

9. What best describes your highest educational qualification?

Bachelor's degree

Master's degree

PhD degree

10. What year did you complete your highest qualification?

* 11. Which of these best describe your area of work or study? (If unemployed, please specify your previous area of work or study.) Multiple responses possible.

- Humanities: e.g. Arts (performing, visual), History, Languages (linguistics) & literature (including poetry, theory, history of..), Philosophy, Theology
- Social sciences: e.g. Anthropology, Archeology, Economics, Human geography, Law, Political science, Psychology, Sociology
- Natural sciences: e.g. Biology, Chemistry, Earth sciences, Space sciences, Physics
- Formal sciences: e.g. Computer science, Mathematics, Statistics
- Applied sciences: e.g. Engineering and technology, Medicine and health
- Other (please specify)

12. List up to 3 keywords that best describe the topic of your work (eg public health, history, physics etc)

1

2

3

* 13. What BEST describes your PRIMARY current employment status?

- Employed at a tertiary educational institution
- Employed at a non-tertiary educational institution
- Employed at a research institute
- Employed in a government organisation
- Employed in a non-governmental organisation
- Employed in private sector/industry
- Employed as consultant
- Student (even if you are also employed)
- Employed other (including part-time)
- Not employed
- Other (please specify)

Working

14. Where are you PRIMARILY working now?

- Africa
- Asia
- Central / South America
- Europe
- Middle East
- North America
- Oceania

Stories about the influence the GYA has had on you and your career.

For our evaluation, we are collecting personal stories about how the GYA has influenced our members, other scientist/researchers, their institutions, countries, science and the world. In this section, we ask you to think about the most positive effects the GYA has had for you, and select between one and three stories to tell us. These may include (but are not limited to) skills building, personal development, friends, networks and connections, mentorship, primary research collaboration, publications, qualifications, policy papers published, policies enacted or influenced etc.

15. Please tell us your most important positive story about the influence of GYA, in your own words. If you can't think of any stories about how the GYA has influenced you, your institutions, your country, science or the world, please skip this section.

16. Please make one selection in each row to tell us how important the influence of GYA in your story was in the following areas:

	Extremely important	Important	Not very important	Not important at all
...to your scientific career	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...to your institution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...to your personal life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...to your personal development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...to your country or region	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...to science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...to solving important global problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

17. Which of these best describes the role GYA played in this story?

- Support to the National Young Academy in my country
- Publishing a scientific report
- Providing me with a mentor(s)
- Supporting a Working Group
- Influencing policy on science
- Providing science advice for influencing policy relevant to solving world problems
- Helping me meet a diverse range of scientists/researchers face-to-face
- Supporting my exchanges with other scientists/researchers / institutions
- Supporting my attendance at meetings and workshops, including GYA meetings
- Improving my leadership skills
- Building my capacity to give science advice to government
- Funding research ideas
- Providing inspiration and motivation
- Other (please specify)

18. How substantial was GYA's contribution to this story?

- Essential: it wouldn't have happened without GYA
- Important: it probably wouldn't have happened without GYA
- Small: it probably would have happened without GYA
- Slight: GYA had only a slight influence

19. Which collaborations were influential in this story?

	Extremely important	Important	Not very important	Not important at all
With other individual scientists/researchers in my institution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
With other individual scientists/researchers in my country	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
With other institutions in my country	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
With individual scientists/researchers or institutions in low and middle income countries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
With individual scientists/researchers or institutions in high income countries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

20. How much does this story include different kinds of scientists/researchers...?

	Actively included	Neither actively excluded nor actively included	Actively excluded
Women as well as men	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scientists/researchers from minority backgrounds, vulnerable backgrounds or who are usually excluded in other ways	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scientists/researchers from one or more low or middle-income countries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scientists/researchers from one or more high-income countries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scientists/researchers from other disciplines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 21. Do you have another story to tell us?

- Yes
- No

Second story about the influence the GYA has had on you and your career.

We asked you to think about the most positive effects the GYA has had for you, and select between one and three stories to tell us.

22. Please tell us your second positive story about the influence of GYA, in your own words.

23. Please make one selection in each row to tell us how important the influence of GYA in your story was in the following areas:

	Extremely important	Important	Not very important	Not important at all
...to your scientific career	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...to your institution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...to your personal life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...to your personal development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...to your country or region	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...to science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...to solving important global problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

24. Which of these best describes the role GYA played in this story?

- Support to the National Young Academy in my country
- Publishing a scientific report
- Providing me with a mentor(s)
- Supporting a Working Group
- Influencing policy on science
- Providing science advice for influencing policy relevant to solving world problems
- Helping me meet a diverse range of scientists/researchers face-to-face
- Supporting my exchanges with other scientists/researchers / institutions
- Supporting my attendance at meetings and workshops, including GYA meetings
- Improving my leadership skills
- Building my capacity to give science advice to government
- Funding research ideas
- Providing inspiration and motivation
- Other (please specify)

25. How substantial was GYA's contribution to this story?

- Essential: it wouldn't have happened without GYA
- Important: it probably wouldn't have happened without GYA
- Small: it probably would have happened without GYA
- Slight: GYA had only a slight influence

26. Which collaborations were influential in this story?

	Extremely important	Important	Not very important	Not important at all
With other individual scientists/researchers in my institution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
With other individual scientists/researchers in my country	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
With other institutions in my country	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
With individual scientists/researchers or institutions in low and middle income countries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
With individual scientists/researchers or institutions in high income countries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

27. How much does this story include different kinds of scientists/researchers...?

	Actively included	Neither actively excluded nor actively included	Actively excluded
Women as well as men	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scientists/researchers from minority backgrounds, vulnerable backgrounds or who are usually excluded in other ways	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scientists/researchers from one or more low or middle-income countries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scientists/researchers from one or more high-income countries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scientists/researchers from other disciplines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 28. Do you have another story to tell us?

- Yes
- No

Third story about the influence the GYA has had on you and your career.

We asked you to think about the most positive effects the GYA has had for you, and select between one and three stories to tell us.

29. Please tell us your third positive story about the influence of GYA, in your own words.

30. Please make one selection in each row to tell us how important the influence of GYA in your story was in the following areas:

	Extremely important	Important	Not very important	Not important at all
...to your scientific career	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...to your institution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...to your personal life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...to your personal development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...to your country or region	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...to science	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...to solving important global problems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

31. Which of these best describes the role GYA played in this story?

- Support to the National Young Academy in my country
- Publishing a scientific report
- Providing me with a mentor(s)
- Supporting a Working Group
- Influencing policy on science
- Providing science advice for influencing policy relevant to solving world problems
- Helping me meet a diverse range of scientists/researchers face-to-face
- Supporting my exchanges with other scientists/researchers / institutions
- Supporting my attendance at meetings and workshops, including GYA meetings
- Improving my leadership skills
- Building my capacity to give science advice to government
- Funding research ideas
- Providing inspiration and motivation
- Other (please specify)

32. How substantial was GYA's contribution to this story?

- Essential: it wouldn't have happened without GYA
- Important: it probably wouldn't have happened without GYA
- Small: it probably would have happened without GYA
- Slight: GYA had only a slight influence

33. Which collaborations were influential in this story?

	Extremely important	Important	Not very important	Not important at all
With other individual scientists/researchers in my institution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
With other individual scientists/researchers in my country	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
With other institutions in my country	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
With individual scientists/researchers or institutions in low and middle income countries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
With individual scientists/researchers or institutions in high income countries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

34. How much does this story include different kinds of scientists/researchers...?

	Actively included	Neither actively excluded nor actively included	Actively excluded
Women as well as men	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scientists/researchers from minority backgrounds, vulnerable backgrounds or who are usually excluded in other ways	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scientists/researchers from one or more low or middle-income countries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scientists/researchers from one or more high-income countries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scientists/researchers from other disciplines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Negative effects of your involvement with GYA

* 35. Have there been any negative effects of your involvement in the GYA?

Yes

No

Negative effects

36. Please describe these negative effects

37. What do you think could have been done to help avoid these effects?

How you see GYA

We would like to understand how you see GYA. What kind of organisation is it?

* 38. How much do you agree with this statement? *The GYA fosters a network and community of future science leaders that build bridges across cultures, geographies and disciplines*

- Agree
- Somewhat agree
- Somewhat disagree
- Disagree

39. What would you add or change to this statement to best describe what GYA does?

40. If you have any ideas about how GYA can get better at its activities in this area, please write them here

* 41. How much do you agree with this statement? *The GYA inspires future generations of scientists/researchers through primary and secondary school outreach and education.*

- Agree
- Somewhat agree
- Somewhat disagree
- Disagree

42. What would you add or change to this statement to best describe what GYA does?

43. If you have any ideas about how GYA can get better at its activities in this area, please write them here

* 44. How much do you agree with this statement? *The GYA strives to improve the scholarly environment for the current and next generation of scientists/researchers.*

- Agree
- Somewhat agree
- Somewhat disagree
- Disagree

45. What would you add or change to this statement to best describe what GYA does?

46. If you have any ideas about how GYA can get better at its activities in this area, please write them here

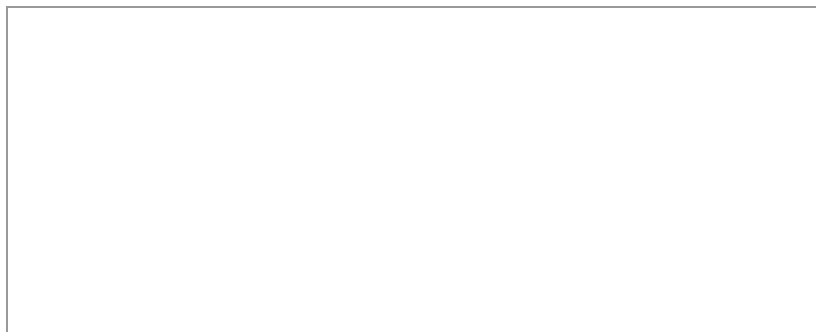
* 47. How much do you agree with this statement? *The GYA gives a voice to young scientists/researchers to contribute to global policy dialogue to inject novel perspectives on emerging societal challenges.*

- Agree
- Somewhat agree
- Somewhat disagree
- Disagree

48. What would you add or change to this statement to best describe what GYA does?

49. If you have any ideas about how GYA can get better at its activities in this area, please write them here

50. In a maximum of three sentences, how would you describe the GYA to someone who had never heard of the organisation?



Finally ...

51. Any other comments that you would like to share that have not been covered in this survey?

* 52. Please tick one box

- I allow GYA to use my stories and other text information I have given here verbatim (anonymously)
- I allow GYA to analyse my stories and present aggregate data, but not to use the verbatim text from my stories

* 53. Would you be happy to be contacted by us to ask you more about your experiences? This means that your contributions would no longer be anonymous. However, we would check with you before using any of your stories (from the survey or subsequent interview) to ensure we accurately capture these and that we have your permission.

- Yes
- No

Email

54. Please give your email address