

Conference on Global Approach to the Gender Gap in Mathematical, Computing and Natural Sciences: How to Measure It, How to Reduce It?, ICTP, Trieste, November 4-8, 2019

Discussion session on the Americas

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Introduction

The Discussion session on the Americas of the “Conference on the Global Approach to the Gender Gap in Mathematical, Computing and Natural Sciences” was held at the ICTP, Trieste, on November 8, 2019. It was attended by 16 people from Brazil, Peru, Mexico, USA, Colombia, Argentina and Chile and coordinated by Mark Cesa (USA, IUPAC [President 2014-2015](#)) and Silvina Ponce Dawson (Argentina, IUPAP). The coordinators made brief presentations that were followed by ample discussion. The first presentation was about some of the results of the Global Survey of Scientists (Task 1) that showed discrepancies between responses from North, Central or South America and other regions. The second presentation contained a series of questions on patterns of publications (Task 2). The third one was about some of the good practice initiatives that existed or could be implemented in the Americas, particularly those that could help start fruitful collaborations throughout the continent (Task 3). We present in what follows the key points of the discussions and some of the recommendations or ideas that were borne out of these discussions.

Discussion on Task 1

The first results on the Global Survey that were presented were related to differences in the [perceptions regarding respondents' experiences in their](#) doctoral programs. In particular, the observation that those who had studied in North America were more likely to rate their programs quality higher and were more likely to have a positive relationship with their advisors than respondents from other regions was the starting point. Participants were then asked whether there were lessons to be learned about best practices in doctoral programs by examining programs in these regions. The participants pointed out that it was interesting that there were respondents saying they did not have positive relationships with their advisors given that most such persons would have been expected to drop out of the field and not complete the survey. Thus, having a higher rate of positive answers regarding the quality of PhD programs or of the relationship with the PhD advisor in a given region could be a consequence that people with negative opinions in these regions could have dropped out at higher rates than in others. A discussion followed on how to address this issue in further detail in the future, particularly, on how to reach out to potential respondents that dropped out of STEM fields. Discussion ensued as well on “re-entry grants” for persons who drop out of a field and then want to join the field again that exist in certain countries (e.g., USA) but not in others (e.g., Latin American countries).

The second result that was discussed was related to the observation that respondents in North America were less likely to report that they had never experienced discrimination. The question was then asked of whether this was simply a perception or a measurable fact. Awareness of what harassment/discrimination is was pointed out as a possible reason for the higher reporting of incidents in North America. All participants agreed that globally increased awareness leads to change in understanding and identifying harassment and/or discrimination.

The next results that were discussed were the observation that respondents working in North and South America were more likely to respond that their career influenced decisions about their personal lives than in other regions and that respondents from Central and North America were less likely to say that their rate of promotion slowed down after becoming a parent. Participants mentioned the existence of day care facilities and/or of re-entry grant programs for persons who drop out of a field and then want to join it again as possible causes for the more positive answers on promotion rate after having children in certain regions. In particular, it was mentioned that the existence of re-entry grants help women change the narrative of their career path as well. It was then noted that there are several caring activities that are typically done by women other than raising kids. In particular, it was mentioned that women tend to become caregivers for their parents as they age, as big a responsibility as caring for children. Participants agreed that this issue should be explored in future surveys. Regarding career progression, it was mentioned that women in some regions do not receive promotions unless they ask for one and that women tend to ask for promotions later in their careers than men. Participants agreed that future surveys should try to address this issue.

Based on these discussions, the following recommendations were produced:

1. It would be good to have a more detailed explanation of each Task 1 question result data in the final report.
2. It would be good to try to reach out to people who dropped out from STEM fields in future surveys.
3. It would be good to have, in future surveys, questions on caring activities other than child bearing (e.g., being caregivers of parents as they age), given that they are mostly performed by women.
4. It would be good to include in future surveys questions aimed at determining how many women are discouraged from applying for promotions and, in particular, to what extent this happens via an informal pre-application process through the department head.

Discussion on Task 2

In order to organize the discussion, participants were confronted with the following questions:

- Are women submitting publications in numbers consistent with their representation in the field?
- Are women-authored publications being accepted at rates equal to their male-authored counterparts?
- Are there any trends in publication patterns?

Participants from Mexico mentioned that their country produces statistical information on scientific publications by Mexican researchers but that is not discriminated by gender. It was mentioned that it would be good to request that such gender-disaggregated information be produced at the national level in Latin American countries. The existence of a recently published analysis on publication patterns from Ibero-American countries discriminated by gender was mentioned [1]. This analysis, which was performed on papers of the Web of Science database, showed that the country with the largest percent of female co-authors is Paraguay, then followed by Argentina with 53%. Chile, on the other hand, is the country with the lowest percent of women's co-authorships (37%). The discussion then moved onto as to whether women are equally likely to work on "hot" areas of research as men or not.

Based on these discussions, the following recommendations were produced:

1. It would be good to request that our countries keep statistics on scientific publications discriminated by the gender of the authors.
2. For future studies on patterns of publication, it would be good to look at “cool” subjects in any given discipline and compare what is the percentage of women co-authors in these areas as opposed to others, less “appealing” subjects.

Discussion on Task 3

The initial presentation included a description of the 7 dimensions with which the good practice initiatives of the database produced by the project are categorized. It was then mentioned that, at the time of the conference, all the entries of the database were in English so that Latin America was under-represented in this database. The activities that were initiated in Latin America and the Caribbean at the Bogota Regional Workshop of 2017 were briefly described. In particular, information on the website, <https://wp.df.uba.ar/ggapsla/>, that contains, among other things, a list of good practice initiatives and the book, “La brecha de Género en Matemática, Computación y Ciencias Naturales: Un Abordaje desde América Latina” [2] that was recently published with contributions by the Bogotá Workshop participants were presented. The discussion then ensued with the general question on what good practice tools and initiatives the participants were aware of that were relevant in their regions. Some of the Latin American participants of STEM fields mentioned that quite frequently it is hard to find funds in their countries for activities that are not directly related to their main fields of research, e.g., for the organization of career development workshops with a gender perspective. Other participants mentioned that in field-related activities the gender perspective could be tailored in, e.g., as in the “Matemáticas en el Cono Sur” activity that took place in Uruguay in 2018 that aimed at encouraging the participation of women in research in mathematics. Given that there were already very good connections among the participants from Latin America and the Caribbean, part of the discussion was devoted to seeing whether these connections could be expanded to collaborate with North America as well.

Based on the discussions, the following recommendations were produced:

1. Suggest the writing of a letter on gender equity in STEM to be signed by all scientific unions of the project and then send to national science agencies and related institutions.
2. It could be good to organize workshops on gender issues for men, to get them directly involved in producing a change in the way that science is practiced.
3. It would be good to discuss the possibility of having an Athena Swan-like [3] program for the Americas, covering the Caribbean and North, Central and South America.
4. It would be good to inquire whether the USA National Science Foundation (NSF) Advance grants [4] that fund the partnership between institutions to move onto more equitable institutions could include institutions from all the Americas. This type of collaboration could build upon the now discontinued Pan American Advanced Institute of the NSF.
5. Inquire about other funding possibilities (e.g., AAAS) to expand collaborations within the Americas. In particular, the societies consortium of AAAS and the Education Council (lawyers) could perhaps be interested in expanding across the whole continent.

Final remarks

As we have already mentioned, prior to the meeting there were very good connections among the participants from Latin America and the Caribbean. This discussion session was especially useful to help expand these connections throughout the whole continent. The e-mails of the participants were collected to continue working in this regard.

The discussion session took place simultaneously with the huge demonstrations that occurred in Chile at the time. Participants highlighted the key role that scientists could play for social change in Chile. Various participants mentioned that there was repression as never seen before, that the violence against women increased and that the minister for women's affairs of the country had said nothing about this violence. It was pointed out, on the other hand, that scientists were organized in Chile, discussing how to make science useful for their country and that they needed the full support of the international scientific community. There was consensus that scientists need to take part in the political debate not only to make the practice of science more inclusive and diverse but to help achieve the goals of a more inclusive society as a whole.

References

- [1] M. Albornoz *et al*, "Las brechas de género en la producción científica iberoamericana" in "El Estado de la Ciencia 2018", report of the RICYT (Buenos Aires, 2018), pp 31-46 (http://www.ricyt.org/wp-content/uploads/2018/10/files_Estado-de-la-Ciencia-2018_E_2018_BRECHAS_GENERO.pdf)
- [2] "La brecha de Género en Matemática, Computación y Ciencias Naturales: Un Abordaje desde América Latina", L. Meza Montes & S. Ponce Dawson, eds (SMF, Mexico, 2019).
- [3] <https://www.ecu.ac.uk/equality-charters/athena-swan/>
- [4] https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5383