



A TOOL FOR MONITORING THE UNDER REPRESENTATION OF WOMEN IN CONFERENCES AND EVENTS

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Based on the project Monitoring and
Assesing Gender Gap in Events (MAGGIE)

ISAHP Conference

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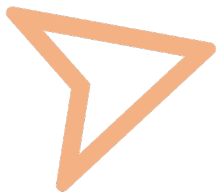


1. Introduction

1.1 Research context

Gender diversity in science is crucial, however, numbers reveal that gender inequalities persist (Commission, 2019; García-González, Forcén, & Jimenez-Sanchez, 2019)

The study of the gender gap in science has gradually broadened to include different perspectives (Otero-Hermida & García-Melón 2018): gender imbalance in the scientific structure, gender differences in the production and publication of scientific knowledge, gender asymmetry in collaborations, among others.

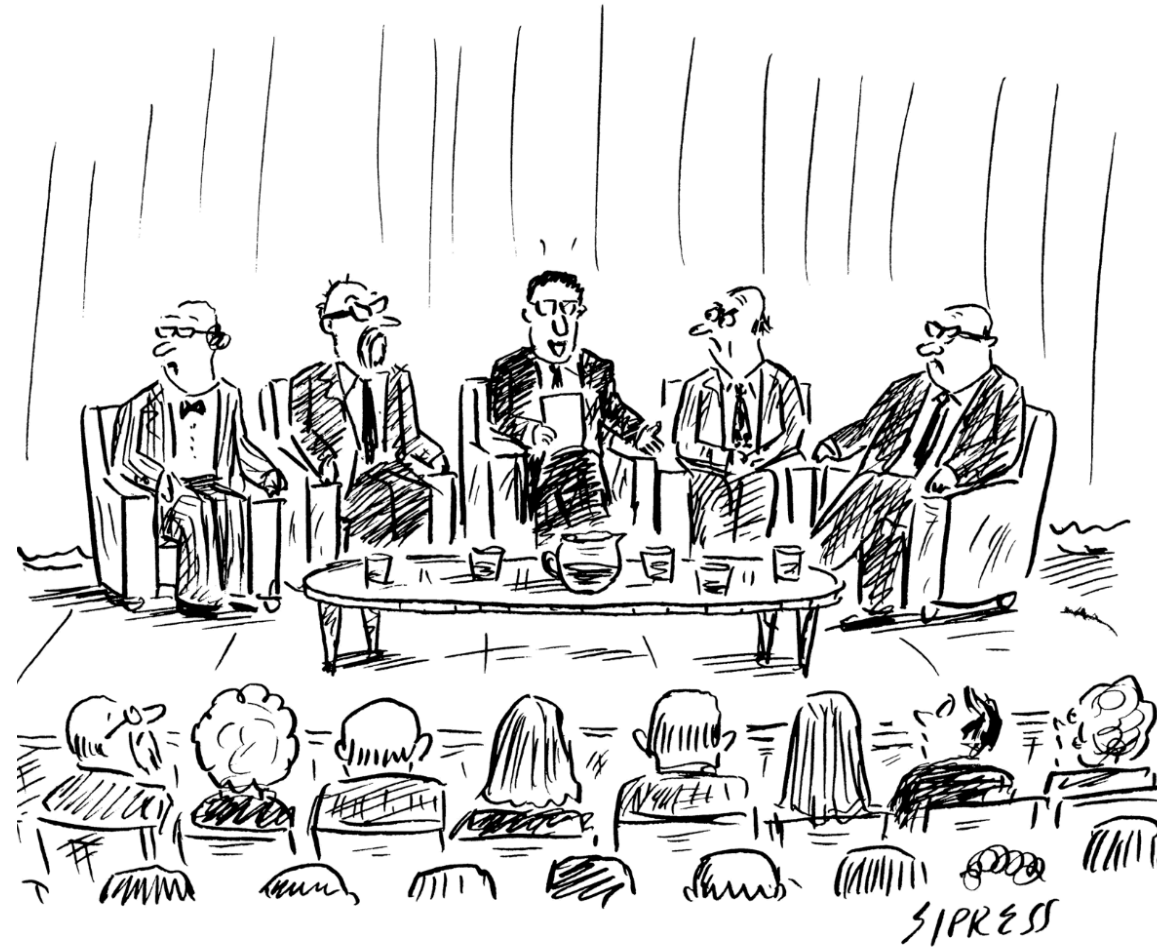


However, research in the participation in academic conferences remains limited (Débarre et al., 2018; Hinsley et al., 2017; Jones et al., 2014; Nittrouer et al., 2017).

1.2 The importance of gender balance in academic conferences

importance of attendance conferences & events: the **feedback and the improvement of the work, career development, building networks, and increasing visibility** (Hinsley et al., 2017).

Numbers reveal a **difference in the proportion of female speakers** (Isbell, Young, & Harcourt, 2012; Mehta et al., 2018; Nittrouer et al., 2017), a **disparity in presentation times by gender** (Carley et al., 2016; Jones et al., 2014) or an **imbalance in the number of female organizing committee members** (Mehta et al., 2018).



"The subject of tonight's discussion is: Why are there no women on this panel?"

1.3 Our objective

- Development of a **tool based on performance indicators, which will allow monitoring and evaluating gender roles and inequalities in conferences and events** in order to tackle the underrepresentation of women.
- Indicators will allow the organizers of the conferences and events to monitor their performance according to each specific dimension.
- Performance indicators are supposed to shape behavior and practices in some desirable direction — in our case into a events practice **'with no gender gap'**.



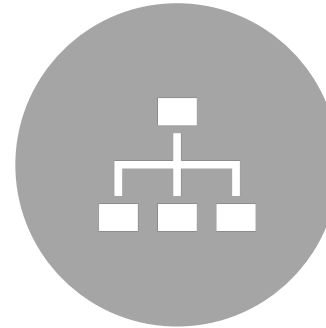


2. Methodology and its application

2.1 General overview I



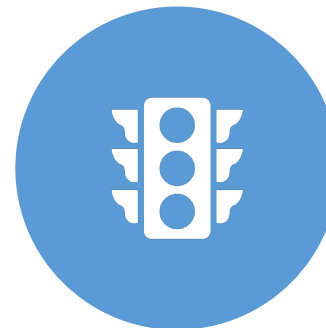
Identify all the **relevant perspectives or dimensions related to the gender gap** and to design a specific list of performance indicators for each of them



Use of **Analytic Hierarchy Process (AHP)** (Saaty 1980), based on theories of relative measurement of intangible criteria and **AHPSort** (Ishizaka, Pearman, & Nemery, 2012) used for the sorting of alternatives into predefined ordered categories



7 in-depth interviews and one focus group (11 participants) with gender experts and relevant academics to discuss the dimensions and the indicators



All the indicators will be measured, and a **traffic light visualization** result will be obtained for each of them

2.1 General overview II

Selection of indicators (criteria) and relevant aspects (Literature review, interviews and participatory session).

Prioritization of the criteria by the experts. Use of definition of measurement scales and threshold. Construction of composite indicators. Use of AHPSort

Monitoring of the events.

Discussion of the results

2.2 Final list of indicators (literature review + interviews + participatory session)

DIMENSIONS	INDICATORS	
D1. Female participation in scientific conference/event	C1.1	% of women who attend the conference
	C1.2	% of women who participate according to the type of active participation (as chair, keynote, oral speaker, poster speaker)
	C1.3	% of women according to the country of their institutional affiliation
	C1.4	% of time exposition spent by women (in plenary sessions)
	C1.5	% of women who ask the first question
	C1.6	% of women who ask questions in plenary and parallel sessions
D2. Organizational structure	C2.1	% of women who are part of the Organizing Committee
	C2.2	% of women who are part of the Scientific Committee
	C2.3	Event facilities regarding gender policies (child-care policy, “violet points”, anti-harassment policy, etc.)
	C2.4	% of track sessions and works which involve gender issues
D3. Gender attitudes perception (gender behaviour, social dynamics, staging)		

2.3 Prioritization of indicators based on experts' judgements. The use of AHP (Saaty 1980)

- The objective of this phase is **to identify the more relevant indicators from the final list** obtained in order to produce a tailored reduced set of indicators.
- In order to obtain a **group judgement**, aggregation of individual judgments (AIJ) were performed using the geometric mean (Saaty, 2001; Saaty & Peniwati, 2008).
- For this purpose, we counted on the **eleven participants** of the focus group, who had **diverse discipline and knowledge backgrounds and different gender approaches**.
- The answers to the questionnaire were collected by the ©Expert Choice Software.

- The most relevant indicators were for the participation dimension: **the number of female keynote speakers (27.2%)**, for the organizational structure dimension: **event facilities regarding gender policies (33.79%)**, and finally for the third dimension: **gender attitudes perception**, which would take all the weight since it is a unique qualitative indicator.
- The global priority results obtained for all the group of experts were used in order to build composite indicators for the event.

OBJECTIVES	LOCAL PRIORITY	GLOBAL PRIORITY
D1. Female participation in Scientific Conference	37,12%	37,12%
C1.1 % of women who attend to the conference	14,67%	5,44%
C1.2 % of women who participate according to the type of active participation	34,95%	12,97%
Keynotes	27,18%	10,1%
Moderators	5,38%	2,00%
Speakers	2,39%	0,90%
C1.3 % of women according to the country of their institutional affiliation	8,39%	3,11%
C1.4 % of time exposition spent by women (in plenary sessions)	18,49%	6,86%
C1.5 % of women who ask the first question	11,19%	4,15%
C1.6 % of women who ask questions in plenary and parallel sessions	12,32%	4,57%
D2. Organizational structure oriented to reduce Gender Gap in Scientific Events	33,52%	33,52%
C2.1 % of women who are part of the Organizing Committee	20,87%	6,99%
C2.2 % of women who are part of the Scientific Committee	26,98%	9,04%
C2.3 Event facilities regarding gender policies (child-care policy, etc.)	33,79%	11,33%
C2.4 % of track sessions and works which involve gender issues	18,36%	6,15%
Keynotes	15,78%	5,30%
Tracks	2,58%	0,90%
D3. Gender attitudes perception (gender behaviour, social dynamics, staging)	29,36%	29,36%
Goal	100,00%	100,00%

2.4 Definition of measurement scales and thresholds for each indicator



- Measurement scales should allow us on the one hand to **identify the measured value with a determined category or class** (green, amber, red) and on the other hand to **construct composite indicators for each dimension** based on all the individual indicators.
- To sort the values obtained in the monitoring process of the conference we propose to use AHPSort (Ishizaka, Pearman, & Nemery, 2012)
- They indicate the minimum level for a value measured to achieve the amber and the green classes that we called equilibrium threshold (amber) in the first place and the parity threshold (green) in the second place.
- These values have to be considered always in relation to **the total number of women who belong to a certain knowledge area**. The classification in knowledge areas and the percentage of women in each of them have been obtained according to a political report (GVA, 2018b).

3. Monitorization of an event

Application of our tool

- We monitored one conference of the Innovation discipline. It took place in Norway in January 2020
- The thresholds for each indicator were calculated according to two main sources:
 - A database on information about parity figures in the different scientific areas. This conference is classified within the knowledge area of Social Sciences, whose parity threshold is 41,9 % (GVA, 2018b).
 - The number of participants attending the conference and the type of participation.



Main results

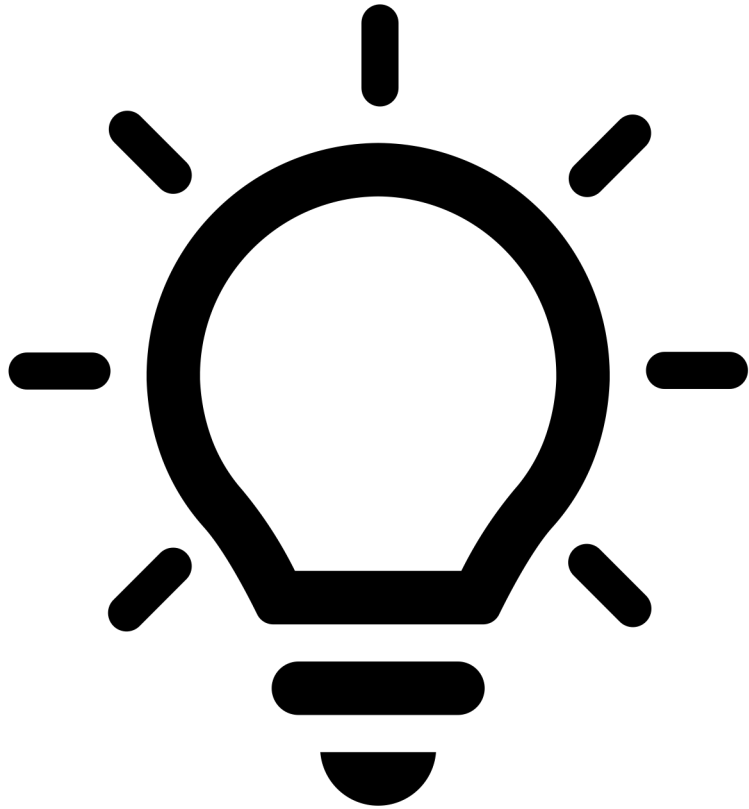
- Following the AHP procedure, **pairwise comparisons were fulfilled and the local priorities for each single one measured for the conference** and for all the limiting profiles for each indicator were calculated. Each indicator has been assessed by applying the classification technique AHP-Sort.
- The **only dimension that gets the green light is D3**, which indicates that the attitudes observed in the "unofficial" dynamics of the conference were very positive and did not induce gender bias.
- An amber result creates the expectation that with a little improvement of some of its weak points it could get a green result with some ease.

			<i>weight global</i>	<i>weight local</i>	INNOVATION CONFERENCE	Green threshold	Amber threshold	<i>Indiv. result</i>	<i>Comp. result</i>
D1. Female participation in Scientific Conference	C1.1 % of women who attend the Conference		0,054	0,147	0,19	0,72	0,09	Amber	Amber
	C1.2 % of women who participate according to the type of active participation (as chair, keynote, oral speaker, poster speaker)	Keynotes	0,101	0,272	0,7	0,22	0,08	Green	
		Moderators	0,020	0,054	0,07	0,65	0,28	Amber	
		Speakers	0,009	0,024	0,06	0,64	0,3	Amber	
	C1.3 % of women according to the country of their institutional affiliation		0,031	0,084	0,19	0,72	0,09	Amber	
	C1.4 % of time exposition spent by women (in plenary sessions)		0,069	0,185	0,31	0,62	0,08	Amber	
	C1.5 % of women who ask the first question		0,042	0,112	0,79	0,13	0,08	Green	
C1.6 % of women who ask questions in plenary and parallel sessions		0,046	0,123	0,27	0,65	0,07	Amber		
D2. Organizational structure oriented to reduce gender gap	C2.1 % of women who are part of the Organizing Committee		0,070	0,209	0,1	0,62	0,28	Amber	Amber
C2.2 % of women who are part of the Scientific Committee		0,090	0,270	0,07	0,65	0,28	Amber		
C2.3 Event facilities regarding gender policies (child-care...)		0,113	0,338	0,08	0,66	0,25	Amber		
C2.4 % of track sessions and works which involve gender issues	keynotes	0,053	0,158	0,2	0,6	0,2	Green		
	track	0,009	0,026	0,06	0,68	0,26	Amber		
D3. Gender attitudes perception	D3		0,294		0,67	0,21	0,12	Green	Green



4. Conclusions & Limitations

Preliminary conclusions



- The use of **multidisciplinary working groups** has allowed us to have a more complete vision of the different approaches to the gender gap and thus to obtain a holistic and robust list of indicators
- Indicators have been classified in three dimensions: participation, organizational structure and attitudes, which allows their analysis both individually and combined between them. And it makes easier to **adapt the evaluation tool to all possible conference contexts**, which is very interesting in the post-COVID19 era
- The use of the AHP multi-criteria decision technique and AHPSort has allowed us to weight the indicators according to the opinion of several experts and with them to be able to generate from these weightings, composite indicators for each of the three dimensions.

Preliminary conclusions II

- Having each indicator and each dimension classified with a colour makes it much easier **to see which indicators are performing well and above all which are not and need to be improved.**
- A tool to monitor academic events **requires being able to use it independently of the discipline.** Therefore, the applicability of our tool favours its use in any discipline. Likewise, the tool also allows us to compare results between different conferences.
- The way to achieve a balance in the conferences is given by **intentional changes.** This tool favours being able to concentrate on the weakest points of the conference and to carry out, intentionally, the required changes.

Limitations

- In the field work, a **binary gender system** (male-female) has been assumed in order to delimit and speed up research.
- Owing to the **need for physical presence** in the sessions to record participation times, it has only been possible to measure this indicator in the sessions called **keynotes**.
- **The most complex part is the work with experts when considering all the pairwise comparisons required by the AHP-Sort.** It will not always be easy to count on the collaboration of people linked to the organization of the event and with a historical vision of the evolution of the conference.



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