# Primum Non Discernere: Glass Ceilings and Female Representation at the European Association of Urology and European Society for Paediatric Urology Annual Meetings, 2012-2022 

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## Article info

## Article history:

Accepted April 5, 2023
Associate Editor:
Silvia Proietti

## Keywords:

Paediatric urology
Gender bias
Urology meetings
Female representation
Glass ceiling
Sexism
Urology congresses


#### Abstract

Background: The term glass ceiling coined by Loden in 1978 is commonly used to describe difficulties faced by minorities and women when trying to move into senior roles. Objective: To analyse trends and patterns for female representation at the European Association of Urology (EAU) and European Society for Paediatric Urology (ESPU) annual general meetings over the past decade. Design, setting, and participants: We used objective data on female representation in the roles of chairs, moderators, and lecture speakers at the EAU and ESPU meetings from 2012 to 2022. Outcome measurements and statistical analysis: We evaluated gender based representation in paediatric urology sessions at the EAU and ESPU meetings, collecting data on the overall number of sessions, lectures, symposiums, abstract/poster sessions, and courses, and analysed the male/female ratio. Data were derived from printed and digital programmes for the relevant meetings. Results and limitations: During the period from 2012 to 2022, the percentage female representation varied from $0 \%$ (2012) to a maximum of $35 \%$ (2022) at EUA paediatric urology sessions, and from $13.5 \%$ (2014) to a maximum of $32 \%$ (2022) at ESPU meetings. Both associations show clear progression towards equality. Conclusions: Female representation at EAU and ESPU meetings has risen over the years, reaching $35 \%$ and $32 \%$, respectively, in 2022 , which is in line with the number of female members. We hope that this motivates a move towards the equality objectives for 2030. A clear and fundamental societal change is needed, with fair and more consistent institutional policies and framework commitments in the


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areas of science, medicine, and global health. Gender equality and diversity taskforces are essential to achieve these goals.
Patient summary: We analysed the male/female ratio for participants in annual meetings held by the European Association of Urology and the European Society for Paediatric Urology. From a low level in 2012, the ratio increased to over 30\% in 2022, in line with the female membership of the societies. Focus on fair and consistent policies is needed to ensure that women are well represented in medicine. © 2023 Published by Elsevier B.V. on behalf of European Association of Urology. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/
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## 1. Introduction

The term glass ceiling, coined by Loden in 1978, refers to a metaphorical barrier that prevents certain individuals from being promoted to higher positions within an organization or industry. The phrase is commonly used to describe the difficulties faced by women and minorities when trying to move to senior roles [1]. These barriers tend to arise via accepted norms and implicit biases rather than written policies. Although traditionally associated with business and financial industries, medicine-especially in surgical disciplines-is not free of this glass ceiling [2-4].

Despite recent advances in gender equity, the current situation still involves important problems that need to be highlighted. Women receive less remuneration for similar roles [5,6], are under-represented in senior-level positions, and are less likely to achieve the same progression change in their career than their male colleagues over a $35-\mathrm{yr}$ period [7]. Evidence suggests that in environments where subtle acts of exclusion are normalized, individuals are impeded from pursuing their professional objectives and their career progression is affected. Gender inequality can be so pervasive that it transcends geography, culture, and age [8,9].

Despite the known prevalence of this phenomenon in Europe, the vast majority of reports addressing this issue in medicine and health care have arisen from the USA [10,11].

Although the numbers of women in health care have grown over the past three decades [12] and women comprise the majority of the global workforce, they hold a small fraction of leadership positions [13]. According to a 2015 United Nations Educational, Scientific and Cultural Organization report [14], female undergraduates outnumbered their male counterparts, but $72 \%$ of the global scientific workforce were male [15]. In Europe, only $36 \%$ of midranking professors and $18 \%$ of full professors were women in 2013, and just $13 \%$ of advanced grants were awarded to women [16]. Just one of 18 global health organisations has gender parity on its governing board, and only two United Nations agencies have a female head [17-19].

Women are still a minority in the urological workforce, representing $16 \%$ of all European Association of Urology (EAU) members in 2021 and approximately $11 \%$ of all American Urological Association members in 2021 [20,21]. In paediatric urology, a marked shift in this landscape seems to have occurred, as the number of female fellows has been increasing in recent years, currently constituting $>50 \%$ [22]. As seen in the composition of our Young Academic Urolo-
gists (YAU) Group, we estimate that women might currently account for $30-40 \%$ of all active paediatric urologists, and this proportion is expected to grow [23].

Prompted by a Lancet editorial posing the question, "What can a journal do? Call for papers" [24], we asked ourselves the same question as part of the YAU Paediatric Urology Group. One of the possible solutions to the inequality problem is visibility. Therefore, the aim of our study was to evaluate whether women's dedication, hard work, and motivation within their career and specifically in this field of expertise correlates with their recognition in terms of positions of responsibility during European Association of Urology (EAU) paediatric urology sessions and European Society of Paediatric Urology (ESPU) meetings.

To this end, we collected objective data on representation of women as chairs, moderators, and lecture speakers at the EAU and ESPU annual general meetings to analyse patterns of female representation. We also aimed to show how female urological representation at these meetings has fared over the past decade.

## 2. Material and methods

We evaluated female and male representation at EAU paediatric urology sessions and ESPU meetings from 2012 to 2022. We extracted data on the overall number of sessions, lectures, symposiums, abstract/poster sessions, and courses, and then analysed the male/female ratio for roles at each of these components as moderators, chairs, speakers, educational session heads, and course instructors. The number of speakers for both societies includes only those chosen as chairs, moderators, and lecture speakers, because this selection process is not anonymised. The data were derived from printed programmes for the ESPU meetings and from EAU digital programmes from 2012 to 2022. Some sessions, courses, and lectures differed over the years, so if a session was not held, the result is reported as "not applicable". The data were collected in an Excel (Microsoft Corporation, Redmond, WA, USA) spreadsheet by three independent members of the YAU paediatric group (B.B.M., L.t.H., R.L.) who had no specific conflict of interest other than the disclosure of identifying as female.

Abstracts were excluded from this analysis, as it is mandatory to anonymise them when submitted in order to avoid any bias. The difficulties associated with female-organized scientific sessions were deemed to be beyond the scope of this study.

## 3. Results

Results are reported separately for the EAU paediatric urology sessions and the ESPU meetings between 2012 and 2022. The relative proportions of male and female members
in each society may have varied over the years, and exact numbers are not available.

Figure 1 shows the percentage female representation by year for the ESPU meetings and EAU paediatric urology sessions. No ESPU data were available for 2020 as the meeting was cancelled because of COVID-19, so there is an interruption of the graph between 2019 and 2021.

### 3.1. EAU 2012-2022

During the period from 2012 to 2022, the average percentage global female representation was $16.4 \%$ at EAU paediatric urology sessions for roles including chairs, moderators, speakers, and course presenters.

The percentage female representation varied from a minimum of $0 \%$ in 2012 to a maximum of $35 \%$ in 2022, showing progression towards equality. The EAU results by session type are shown in Table 1.

### 3.2. ESPU 2012-2022

The results for ESPU meetings are shown in Table 2. Some lectures were grouped together to facilitate interpretation of the results.

During the past 10 yr , the percentage of total female contributors as chair, speaker, or moderator during the different types of session at ESPU meetings varied from a low of $13.5 \%$ in 2014 to a high of $32 \%$ in 2022 , showing progression towards equality.

## 4. Discussion

In general, the numbers are better than in many earlier studies and show a clear trend towards a change in favour of female representation for both the EAU and ESPU. Capella et al. [25] investigated female representation at six large
urological congresses between 2014 and 2019 and found an increase from $13.7 \%$ to $19.3 \%$ ( $p<0.05$ ).

Our study focuses on female representation at the highest academic levels for paediatric urology. It should be emphasised that even though the results correlate regarding progression over the years (Fig. 1), they are difficult to compare. The EAU paediatric urology sessions, despite recent growth, are limited, so the number of speakers is also limited. Conversely, the ESPU congress is completely focused on paediatric urology and the number of sessions is high, resulting in a larger number of session speakers, presenters, moderators, and chairs.

In the early years, under-representation of women was evident across all fields for chairs, speakers, and panel members, with an ultimate nadir of $0 \%$ during the 2012 and 2013 EAU meetings. The EAU programmes have since demonstrated a significant increase in the number of female participants. However, it is also obvious that it is difficult to keep the numbers steady. The ESPU congresses show a more stable male/female ratio for overall representation over the years. A noteworthy point is the significant increase in the number of sessions chaired by women, a role regarded as one of the most respected contributions at a meeting. However, there was no significant change for the specific lectures.

These numbers are certainly related to the number of active members. The exact numbers by sex could not be provided by the EAU and ESPU because of privacy regulations. However, the proportions are approximately 70\% male and $30 \%$ female for membership of both societies Thus, the representation seems to be in line with the membership ratio.

These numbers and ratios are in line with those reported by Hüsch et al. [26] for their analysis of female representation at annual meetings of the German Society of Urology in 2011 ( $9 \%$ female chairs and $15 \%$ female speakers) in com-


Fig. 1 - Percentage female participation in the European Association of Urology (EAU) and European Society of Paediatric Urology (ESPU) congresses from 2012 to 2022.

Table 1 - Female participation in European Association of Urology paediatric urology sessions

| Year | M/F ratio |  |  |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | TS roles |  | $\begin{aligned} & \text { PUP } \\ & \text { chair/moderator } \end{aligned}$ | ESU-PUC <br> chair/instructor | $\mathrm{M} / \mathrm{F}$ ratio | F (\%) |
|  | Chair | Speaker |  |  |  |  |
| 2022 | 3:1 | 5:4 | 3:1 | 3:1 | 14:7 | 33.3 |
| 2021 | 5:1 | 12:2 | 2:1 | NA | 19:4 | 17 |
| 2020 |  |  | 2:1 | NA | 2:1 | 33 |
| 2019 | 2:0 | 4:2 | 5:1 | NA | 9:3 | 25 |
| 2018 | 2:0 | 5:1 | 4:2 | NA | 11:3 | 21 |
| 2017 | 2:0 | 5:1 | 9:0 | 8:0 | 24:1 | 4 |
| 2016 | 1:0 | 5:0 | 4:1 | 4:0 | 14:1 | 6 |
| 2015 | 1:0 | 5:0 | 1:3 | 4:0 | 11:3 | 21 |
| 2014 | 1:0 | 3:1 | 4:2 | 4:0 | 12:3 | 20 |
| 2013 | 1:0 | 4:0 | 4:0 | 4:0 | 13:0 | 0 |
| 2012 | 1:0 | 3:0 | 4:0 | 4:0 | 12:0 | 0 |

NA = not available; $M=$ male; $F=$ female; TS = thematic session; PUPS = paediatric urology poster session; ESU-PUC = European School of Urology paediatric urology course.

Table 2 - Female participation in European Society for Paediatric Urology meetings

| Year | Session chairs |  | M/F ratio |  |  |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | M/F ratio | F (\%) | Lectures I ${ }^{\text {a }}$ | Lectures $\mathrm{II}^{\text {b }}$ | Educational sessions | RCs | M/F ratio | F (\%) |
| 2022 | 29:16 | 36 | 12:1 | 22:6 | 3:1 | 3:3 | 73:35 | 32 |
| 2021 | 20:5 | 20 | 6:4 | 13:1 | 2:1 | 2:1 | 49:13 | 20 |
| 2020 | NA | NA | NA | NA | NA | NA | NA | NA |
| 2019 | 35:13 | 27 | 8:3 | 26:7 | 3:1 | 7:6 | 77:26 | 25 |
| 2018 | 50:16 | 24 | 7:4 | 20:8 | 3:0 | 6:5 | 84:30 | 26 |
| 2017 | 46:11 | 19 | 11:1 | 27:4 | 3:0 | 2:2 | 102:20 | 16 |
| 2016 | 40:12 | 23 | NA | 3:1 | 3:0 | NA | 77:15 | 16 |
| 2015 | 46:8 | 15 | 1:0 | 24:5 | 2:0 | NA | 91:15 | 14 |
| 2014 | 35:10 | 22 | NA | 18:1 | NA | NA | 89:14 | 14 |
| 2013 | 39:5 | 13 | 12:12 | 30:4 | NA | NA | 118:21 | 15 |
| 2012 | 40:6 | 13 | 3:3 | 13:2 | NA |  | 79:13 | 14 |

NA = not available; $M=$ male; $F=$ female; RCs = research communications.
${ }^{\text {a }}$ Lectures on specific topics in the poster/oral presentations
${ }^{\text {b }}$ Includes: John Duckett lecture, History Session, Tips and Tricks, Point \& Counter Point, Launch of the European Society for Paediatric Urology web book, Hands ON, Special Presentation, Highlights of Basic Science presenter, Asia-Pacific Association of Pediatric Urologists lecture, Society of Pediatric Urology lecture, American Academy of Pediatrics lecture, International Children's Continence Society lecture, Point of Tech, best paper presenter, International Children's Continence Society parallel course, Oral Abstract chair, RCs.
parison to 2018, 2019, and 2020 ( $15 \%$ female chairs and $20 \%$ female speakers). However, it should be noted that female representation in the German society was still modestly lower than in the EAU or ESPU at that time ( $\sim 25 \%$ ).

Numbers are also improving for publications by female authors, which reflects academic work and career progression in the same way as taking a role as speaker or chair at medical conferences: Suarez Arbelaez et al. [27], showed a significant increase in female senior authorship in all journals in the past $6 \mathrm{yr}(p=0.045)$. One of the latest studies to be published in European Urology Focus [28] shows that female representation is still low across all urology journals. The author concluded that promotion of women to editorial boards increases their recruitment in this field. Serving on an editorial board is a recognition, in addition to an academic goal that provides an opportunity to promote and shape the articles published by the journal.

A possible bias regarding this issue might be the higher number of women working and publishing in certain urology subspecialties, including paediatric urology $[29,30]$, which in turn correlates with female representation among fellows and at medical congresses. Although most of the literature on this subject is from the USA and thus is possibly less applicable to Europe, many studies have described a
trend towards more female first authors and corresponding authors in Europe [30,31]. However, there was no similar trend for last authorship.

Although women have closed the gender gap with respect to medical school admissions, there is still a glass ceiling regarding top faculty ranks. Several studies in the past decade showed that female associate and full professors were half as likely as their male counterparts of equal rank to be appointed to department chair, with differences in promotion persisting across every academic department [7]. In a study published in 2018, the authors showed that over a period of 17 yr , among 1273 faculty members at 24 US medical schools, women were less likely than men to attain leadership positions such as dean, associate dean, provost, and department chair, even after adjustment for publication-related productivity [32]. In addition, women were less likely to be full professors in a cross-sectional analysis involving faculty members in cardiology departments at US medical schools [11].

### 4.1. Possible causes

The data now raise questions regarding the causative factors. Items mentioned by many authors include: a persist-
ing "old boys' club" mentality and climate; lack of gender parity in leadership and compensation; lack of female retention; a disproportionate burden of family responsibilities; and difficulties in work-life balance [7]. Gender inequality and bias might have an intrinsic female cause, such as pregnancy, childbirth, motherhood [7,29,33], and a socially imposed domestic burden and the associated gender inequity [29,31,34]. However, females working in academia also invest more time in clinical activities, teaching, and mentoring [31]. Other important factors are the lack of role models, mentors, and sponsors, as well as access to research funds, avoidance of backlash, and the wellknown imposter syndrome [33].

It has been shown that women more often experience the imposter syndrome, feeling more uncertainty about their own qualifications and abilities in comparison to men with similar experience. Awareness of this difference is already an important step in solving this inequality by women themselves. Exposure to an environment of subtle acts of exclusion means that the imposter syndrome becomes normalised and difficult to avoid. This leads to anxiety and fear of exposure, so the individual tries to avoid any situation and thus falls behind their colleagues [35]. It is striking that the female participation in 2021-in both societies and at congresses-was considerably lower than in the previous years and in 2022. This might reflect the consequences of women having to play a greater role in home childcare because of gaps in institutional childcare (eg, creches, kindergarten) during the COVID-19 pandemic. This might be interpreted as another example of an implicit bias: the expectation that the mother should stay at home with the children [36,37].

### 4.2. Offering solutions

The possible causes give us clues for possible solutions. As stated before, registering the problem and collecting data on its occurrence are important for recognition and transparency. This leads to the importance of mentoring programmes, sponsorship, and taskforces in equity, diversity, and inclusion (EDI) [34].

Studies have also demonstrated that empowering women by creating a female network results in more women at higher places. A woman in a panel or working group is in a position to empower other women to reach that same status [31].

The use of social media to connect the health care community, advocates, and patients, and to promote EDI worldwide (e.g, \#ILookLikeAUrologist [33,38]) has led to more than 224 million impressions on Twitter alone in 2015, and has become a way in which women can promote one other [33].

For journals, we advise (self)auditing for appropriate board representation and a journal gender equity policy [39]. Chyu et al. [33] gave excellent suggestions for congress organisations in 2021, such as the creation of speaker rosters that are diverse in gender and race, avoidance of male-only panels, and encouragement of individuals invited to speak at meetings to discuss diversity with the conference organizers (eg, sponsorship). The editorial board of

European Urology responded with a commitment to implement some of the authors' suggestions at their academic meetings.

Other possible ways to improve female participation might lie in trying to change organisational culture by fostering management changes in companies. In a 2021 article on how to close the gender gap, Ammerman and Groysberg [40] stated that it is necessary to foster the success of female employees and the company as a whole, and to recognise problems in management activities and take steps to fix them.

There have undoubtedly been several positive developments. The latest American Urological Association meeting had a session dedicated to this topic (Advancing gender equity in urology: allyship for men and advocacy for women). Moreover, Urology has been designated the official journal of the Society of Women in Urology (SWIU) since September 2022, with two female editors for the novel Women in Urology section.

EDI taskforces are essential to pursue these objectives, such as EAU has formed recently. The future looks promising, as many of our colleagues in the scientific community, and in such a male-dominated field as urology, are conducting similar work to address the deficiencies from a constructive point of view. The EAU is one of the largest medical associations in Europe, and the ESPU is one of the best-known societies in the field of paediatric urology. Their efforts towards equality are evident, especially regarding younger members and the SWIU (https://swiu.org/home. aspx).

## 5. Conclusions

Female representation at two congresses important for paediatric urology events (EAU and ESPU) has risen over the years until $35 \%$ and $32 \%$ respectively, in 2022 , which is in line with the number of female members. We compared these numbers to other congresses, publications, and academic roles of women. We also identified several causes and offered possible solutions in the hope to motivate a move towards the equality objectives for 2030.

A clear and fundamental societal change is needed, with fair and more consistent institutional policies and framework commitments in the areas of science, medicine, and global health. Besides individual initiatives and the use of tools such as social media to raise awareness, gender equality and diversity taskforces are essential to achieve these goals, as empowering through creating a women's network with female mentorship and stewardship.

Author contributions: Beatriz Bañuelos Marco had full access to all the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

[^0]Critical revision of the manuscript for important intellectual content: 't Hoen, O'Kelly, Haid, Dönmez, Sforza.
Statistical analysis: None.
Obtaining funding: None.
Administrative, technical, or material support: Baydilli, Bindi.
Supervision: Bañuelos Marco, O'Kelly, Lammers.
Other (publication fee): Lammers.

Financial disclosures: Beatriz Bañuelos Marco certifies that all conflicts of interest, including specific financial interests and relationships and affiliations relevant to the subject matter or materials discussed in the manuscript (eg, employment/affiliation, grants or funding, consultancies, honoraria, stock ownership or options, expert testimony, royalties, or patents filed, received, or pending), are the following: None.

## Funding/Support and role of the sponsor: None.

Acknowledgments: We would like to thank Professor J.M. (Rien) Nijman for providing the ESPU programme books. We would also like to acknowledge support from the EAU Young Academic Urologists Paediatric Urology Group.

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[^0]:    Study concept and design: Bañuelos Marco, O'Kelly, Lammers. Acquisition of data: Bañuelos Marco, Lammers, 't Hoen.
    Analysis and interpretation of data: Bañuelos Marco, Lammers. Drafting of the manuscript: Bañuelos Marco, Lammers.

