Career aspirations among specialty residents: a gender-based comparison

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Abstract

**Background** - Two recent studies looked at the career choice of residents in obstetrics & gynecology. It seemed useful to us to broaden this questioning to other specialties, by proposing a study to all residents in the same Faculty. The objective of our study was to describe residents career aspirations and possible barriers according to gender.

**Methods** – Declarative cross-sectional survey, using questionnaires sent by email to the specialty residents of the Faculty of Medicine of Lille (France). An analysis by specialty group (i.e. medicine, surgery, obstetrics & gynecology and anesthesia & resuscitation) and a comparison of the results according to gender were performed.

**Results** – Of the 1,384 specialty residents currently in training, 462 answered the questionnaires (33.38%), among whom 289 women and 173 men (average age = 27.08 years +/- 0.091). 17 women (5.9%) were currently considering a university hospital career versus 37 men (21.4%) (p = 0.001). Gender analysis made it possible to identify obstacles to engaging in a university career: lacking female model, more frequent doubting in the ability to lead this type of career among women (61.6%) than men (35.3%) (p <0.001), and gender discrimination felt in the workplace for 51.6% of women (versus 7.5% of men, p <0.001). Subgroup analysis showed specificities related to each specialty.

**Conclusions** – Few residents plan to embark upon a university hospital career, let alone female residents. There are specificities specific to each specialty and marked gender differences regarding career aspirations. Many obstacles have been identified as obstacles to access to university hospital positions for women. It is important to develop strategies to remove these barriers and enable women to pursue such university careers.

**Background**

The themes of equality between men and women, career choices, and personal-professional balance are burning issues, with quite a number of works published and relayed by the media. Several recent studies have addressed questions of personal-professional balance: balance between professional as well as personal constraints and satisfactions, discriminatory barriers to desirable positions, and career aspirations (1-5).
These studies provided a state-of-play of hospital functioning, and described the place of women in positions of responsibility within the medical community. The study by Rosso et al. described the presence of a glass ceiling, and detailed the obstacles to the progression of women in the university hospital environment (1). Two recent additional studies looked at the career choice of residents in obstetrics & gynecology (3, 4). They showed that many barriers limited women access to university hospital positions. In a column published in a major French daily newspaper ("Le Monde"), a group of doctors called on the government to thoroughly evaluate the place of women in university hospital careers in France in order to promote their access to Health management positions (6).

Indeed, according to the meta-analysis by Edmunds et al. (7), women show a lesser interest in research than in education, suffer gender-based discrimination, and lack mentors. However, most of the studies cited in this meta-analysis have been carried out in Anglo-Saxon countries. Thus, the conclusions do not necessarily correspond to the reasons that can be identified in France. Faced with this observation, two consecutive studies were carried out in 2017 and 2018 among residents in obstetrics and gynecology, a specialty mainly numbering women (respectively 85% and 86% of female residents in Paris in 2016–2017 and in Lille in 2017–2018). In these studies (3, 4), there was less attraction for university hospital positions among women, due to clearly identified obstacles. These were the lack of mentor and female models which would make it possible to arouse vocations, difficulties in time management linked to clinical & research & teaching activities together, which characterizes the French university hospital model, and a lesser interest for research on women's part.

With these findings, it seemed useful to us to broaden this questioning to other specialties than obstetrics & gynecology, by proposing a study to all Lille residents. Thus, the objective of our study was to assess career aspirations and obstacles within all residents of the Faculty of Medicine of Lille, according to gender and specialty profile (medical, surgical, anesthesia & resuscitation and obstetrics & gynecology).

Methods
This was a declarative cross-sectional survey of all specialty residents at the Faculty of Medicine in
Lille (France). This consisted of answering a questionnaire made up of 40 items, sent by email, via Google Form. The questionnaire was titled "Choosing a University Career Among Lille's Specialty Residents". This questionnaire was anonymous. The selected population responded to it on a voluntary basis. It was posted via Facebook using a permanent link to the group of the Association of Residents in Practice of Lille Hospitals (AIEHL). It was also distributed by email by the respective associations of residents of each specialty between January and June 2019.

In France, the training period of a resident lasts 4 to 5 years depending on the specialty. The study population included all residents undergoing training registered at the Faculty of Medicine of Lille (France), from the 1st year to the last included. General medicine residents were not included in this study because they are little concerned with university hospital careers. The current number of Lille residents was 1,384 according to data from the Regional Health Agency (ARS).

The questionnaire was that developed by Berlingo et al. (3), and also used for the study by Cathelain et al (4) on residents in obstetrics & gynecology. This questionnaire collected different types of data. Socio-demographic characteristics were collected (in particular age and biological sex) as well as career aspirations (private sector, university hospital, hospital) and the means to achieve them. The idea was to identify if they fulfilled or wished to fulfill the prerequisites to be a university hospital doctor. We then sought to identify their priorities in life, as well as the areas they deemed most important for their future development. We asked them to rank the importance of each item from 1 to 5 (1 being the least important and 5 the most important).

Finally, we asked them about the possible obstacles to access to a university career, the obstacles being identified thanks to a literature review, especially the review published by Edmunds et al. (7), such as: the presence of a mentor or an academic model, support in their research projects, resentment of gender discrimination, doubts about their ability to pursue a university career, and finally if their career choice would have been different if they had been of the opposite sex.

Statistical analyzes
A univariate descriptive analysis of the data collected was carried out, then supplemented by an analysis by specialty group, divided into 4 subgroups: medical specialties, surgical specialties,
obstetrics & gynecology and anesthesia & resuscitation. For the quantitative variables we used the Student test and for the qualitative variables we used the Chi-square test. All analyzes were performed using SPSS Statistics version 25 software.

Ethics
The processing of personal data carried out is in accordance with the European regulations in force relating to data protection. They appear in the treatment register under the reference: N * DEC19-486

Results
Among the 1,384 residents, 462 of them (33.38%) responded to the questionnaire, divided into 289 women (62.6%) and 173 men (37.4%). The number of medical specialty residents was 293 (63.4%) with a W/M ratio of 1.99; it amounted to 47 for surgical specialty residents (10.2%) with a W/M ratio of 0.52, to 67 in obstetrics & gynecology (14.5%) with a W/M ratio of 5.7, and finally, to 55 in anesthesia & resuscitation (11.9%) with a W/M ratio of 0.62. No forensic, nuclear, public health, neurosurgery, ophthalmology, plastic, cardiac and thoracic surgery resident responded to the questionnaire (n = 112). The details of the numbers and the response rate according to each specialty can be found in Table S1.

Table 1 presents the socio-demographic characteristics according to the type of resident interviewed and according to the specialty sub-group. We did not find any significant difference concerning age, residency semester, marital and family status, and between men and women.

Concerning career aspirations according to gender and type of specialty (Table 2), men wanted more than women to pursue research (35.3% versus 19.4%, p = 0.001) and teaching (61.3% versus 32.5%, p <0.001). 17 women (5.9%) were currently considering a university hospital career compared to 37 men (21.4%), (p = 0.001). In obstetrics & gynecology, 70% of men wanted to do a Master of Research against 15.8% of women (p = 0.001). In medical specialties, women published fewer articles than men (38.5% versus 55.1%, p = 0.035) and wished less often to become Assistant Head of the University Hospitals (CCA-HU) (29.2%) than men (44.9%), p = 0.049. Finally, in surgical specialties, no woman had a vocation for a university hospital career, compared to 9.7% of men, p = 0.039.

Table 3 presents residents’ priorities for personal development, according to gender and type of
specialty. Family life and freedom of choice in working hours were more important for women than for men (p = 0.001), while knowledge transfer was more important for men than for women (p = 0.012). Interest in intellectual stimulation was higher among men in medical specialties (p = 0.006). Men in surgical specialties declared social recognition as a higher priority (p = 0.014). There was no gender priority difference among residents in anesthesia & resuscitation. Possible barriers to a university career, according to gender and type of specialty, are detailed in Table 4. Male residents received more advice for their future career from seniors than female residents did (52.6% versus 41.9% - p = 0.016). They doubted less than women about their ability to pursue a university career (35.3% versus 61.6% - p <0.001). 56.1% of female residents had already experienced discrimination related to their gender, compared to 7.5% of male residents (p <0.001). In surgery, among seniors who stand for university models for residents, 95.5% are the same sex as male residents, and 28.6% are the same sex as female residents (p <0.001). In medical specialties, 39% of women thought that their career choice would have been different if they had been of the opposite sex, compared to 17.3% of men (p <0.001). Finally, in anesthesia & resuscitation, 52.9% of men thought it was possible to reconcile clinical, research and teaching activities against 23.8% of women (p = 0.033). Table S2 presents the results for all specialties combined.

Discussion
In recent years, we have witnessed a feminization of the medical profession, but the highest positions in hierarchies within university and hospital remain predominantly occupied by men. In our study, we show that women plan less than men to pursue a university career, and this difference is even more marked in certain specialties such as surgery. Whatever the specialty, women favor a career in a hospital environment. Presumably, this choice is likely linked to the benefits of the wage system, which provides job security and pay, especially among women of childbearing age. In fact, according to the study by Pyatigorskayaa et al. concerning residents in radiology, maternity remains a source of inequality in France, and implies that a greater number of women are ready to take up salaried positions to obtain secure employment, even if their remuneration may be lower. 74% of women declared that motherhood could influence their career choice, and were less interested in unstable
positions exclusively in private practice (45% of men and 33% of women, \( P = 0.05 \)) (8). In the study by Cochran et al., almost half of female surgeons agreed or strongly agreed that having children would be a barrier to their careers, compared to only 5% of their male colleagues (9).

For some women, the choice of career type had not yet been decided: we note that more women answered: “do not know” to the question on the career envisaged, compared to men. The fact of not making a choice, or of hesitating, is something very present in the responses of women: to the question “do you doubt your ability to achieve a university career?” two thirds of women answered “yes”. This doubt may also be related to the fact that women receive less advice about their future careers from university doctors than men do. It may also be related to the fact that when women have an academic model, this model is generally not of the same sex as them, which makes it more difficult to project themselves into an ideal of career. In surgery, for example, no female resident wished to pursue a university hospital career, and at the same time we note that almost all of the men declared having a model of the same sex, compared to less than a third of females. Numerous studies have shown the mentor's role in choosing careers (10–17), and more particularly for women in surgery, with the recent study by Bettis et al. (18). Concerning the problem of discrimination running from the start of medical studies, it is already well known and described (19–22). In our study, we find major discrimination rates in surgery and anesthesia & resuscitation, which are still predominantly male specialties. We can think that this significant rate of discrimination is linked to the place of practice of these specialties: the operating room. Even if mentalities have changed a lot, the operating room remains a place where a special atmosphere prevails. Relations are sometimes tense between medical and paramedical teams, in relation to the level of stress of the doctors, the arduousness of the work, and the organizational constraints of each. The operating room can be close to a sort of in-camera for the teams, a confined place where overflows, such as verbal abuse or harassment, can easily be trivialized.

The last point specific to university careers is that the triple activity of research, teaching and clinical practice seems difficult to manage for women, specifically in anesthesia & resuscitation and obstetrics & gynecology. In addition, women seem to be less interested in research than in teaching,
and overall less interested in transmitting knowledge than men.

Regarding priorities in life, overall, for all residents and even more markedly for women, family life remains the most important for their future development. Interest in professional activity and intellectual stimulation are also important priorities. On the other hand, social recognition and salary are not ranked at the top of the priorities, except for male surgeons who classify them as relatively important. It is therefore important to take into consideration the challenges linked to the balance between professional career and personal life, and the priorities of each, according to the specific characteristics of specialties and gender.

Studies that seek to identify the obstacles to a university career for women are increasing (3, 4, 7, 8, 23). In February 2019, The Lancet published a thematic issue (#LancetWomen) on the place of women in science, medicine and world health in order to highlight and promote research work in favor of gender equality (24). It was clearly established that women are underrepresented in leadership, decision-making and research (25). This special issue highlighted the importance of gender parity in medical and scientific teams. For example, the work by Sugimoto et al. showed us the importance of more diverse and inclusive teams, particularly with regard to the declaration of the sex of participants and the inclusion of women in clinical studies (26). Regarding the existing discrimination between men and women, the work by Witteman et al. raised the problem of access to research grants, which are preferably awarded to men (27). The editorial to this special issue concluded that it is the responsibility of everyone – researchers, clinicians, institutional leaders and even medical journals – to promote gender equality.

Faced with these findings of inequality at different levels in science and medicine, it seems important to put in place concrete strategies from the start of medical studies. For example, in the United States, following surveys carried out by the Association of American Medical Colleges (AAMC), different strategies have been implemented: the “Women in Medicine and Health Science” (WIMHS) program started in 2000 in California or also the group “Group on Women in Medicine and Science” (GWIMS) created in the United States in 2009 to attract women to university medicine. These programs have had a positive influence on the recruitment and job satisfaction of women, with a
constant increase in the number of women teachers and in service management (28, 29). In France, there is currently no strategy for the specific supervision of female interns. However, since November 2017, a reform in medical studies provides for supervision provided by a tutor, from the start of residency. The training contract and the portfolio allow the individualization of the training path to meet the student’s professional project, as well as the personalization of their follow-up (30). We can hope that women can benefit from this reform thanks to personalized support to help them embark on a university career if they wish. It seems important to inform women early in their studies about possible careers.

Our study has strengths but also certain limits. The response rate is satisfactory, since more than a third of Lille hospital residents responded to our survey. However, there are disparities according to the specialties: more than 90% of respondents in obstetrics & gynecology, and less than 30% of respondents in surgery (Table S1). Concerning the sex ratio of the respondents, it is difficult to know if it is respected, since the Regional Health Agency does not have data on the gender or the sex of specialties interns. In total, more women than men responded to our study, but we cannot know whether this is solely related to the feminization of the profession, or to the fact that women are more interested in this subject. This would then imply a response bias.

The originality of our study is to have interviewed the young generation of future doctors and / or surgeons within the same Faculty of Medicine, without being limited to a single specialty.

Conclusion

Female medical residents are less likely than their male counterparts to pursue a university career, and this difference is even more marked in some specialties. The main obstacles identified are the same in all specialties. Women doubt their ability to pursue a university hospital career, their legitimacy to access such a position, and self-censor. Most of today's hospital doctors are men: women in the process of being trained lack a mentor and female models that would encourage vocations. The triple clinical / research / teaching activity which characterizes the French university hospital model seems to be a hindrance, due to the time management which seems difficult between the three aspects, and a lesser interest in research and teaching in women. As more and more women
work in the medical profession, it is important to develop strategies to encourage and support those who wish to pursue a university hospital career. It is also important to think about the quality of life of future doctors, male or female, whose work-family balance is the main concern.

Declarations

Abbreviations

Not applicable

Ethics approval and consent to participate

The processing of personal data carried out is in accordance with the European regulations in force relating to data protection. They appear in the treatment register under the reference: N * DEC19-486. The Data Protection Officer of the hospital district group « Lille Metropole Flandre interieur », certify that the processing file for the purpose of Career aspirations among specialty residents: a gender-based comparison, implemented in 2019, has been declared by Alice Cathelain and Pr Garabedian.

Consent for publication

By starting to fill out the online questionnaire the subject was giving his/her consent.

Availability of data and material

All data generated or analysed during this study are included in this published article [and its supplementary information files].

Competing interests

The authors declare that they have no competing interests.

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None

Authors' contributions

AC has made substantial contributions to the conception and design of the work; and the acquisition, analysis, and interpretation of data; and has drafted the work

MJ has made substantial contributions to the interpretation of data; and has substantively revised it.

CC has substantively revised the work.
SC-J has substantively revised the work.

DS has substantively revised the work.

M-CC has substantively revised the work.

LB has made substantial contributions to the conception and design of the work; has substantively revised the work.

CR has substantively revised the work.

CG has made substantial contributions to the conception and design of the work; and the acquisition, analysis, and interpretation of data; and has substantively revised it.

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Tables
### Table 1: Social and demographic data, and career aspirations, analysis by gender

|                      | All specialties | Medical specialties | Surgical specialties | Gynecology-Obstetrics |
|----------------------|-----------------|---------------------|----------------------|------------------------|
|                      | total n = 462   | men n = 98          | women n = 195        | p value                |
| Age: Mean (DS)       | 27.08 (0.091)   | 26.82 (2.04)        | 26.99 (1.99)         | .486                   |
|                      |                 |                     |                      |                        |
| semester of residency | 5 [3;7]        | 5 [3;7]             | 5 [3;7]              | .933                   |
|                      |                 |                     |                      |                        |
| marital status       | .431            | .931                | .634                 |                        |
| single attached      | 134 (29.0%)     | 54 (27.7%)          | 9 (29.0%)            | .492                   |
| married              | 272 (58.9%)     | 122 (62.6%)         | 10 (31.3%)           | .945                   |
|                      | 56 (12.1%)      | 19 (9.7%)           | 16 (8.2%)            | .052                   |
| number of children   | .669            | .945                | .271                 |                        |
| 0                    | 425 (92.0%)     | 96 (10,2%)          | 10 (6,2%)            | .218                   |
| 1                    | 24 (5.2%)       | 48 (49,0%)          | 12 (61,3%)           | .492                   |
| 2                    | 9 (1.9%)        | 26 (26,5%)          | 12 (38,7%)           | .945                   |
| 3                    | 1 (0.2%)        | 10 (10,2%)          | 1 (3,2%)             | .271                   |
| >3                   | 3 (0.6%)        |                     |                      |                        |
| academic partner*    |                 |                     |                      |                        |
| no                   | 264/328 (80.5%) | 109/141 (77.3%)    | 19/22 (86.4%)        | .218                   |
| doesn't know         | 15/328 (4.6%)   | 6/141 (4.3%)        | 1/22 (4.5%)          | .492                   |
| yes                  | 49/328 (14.9%)  | 26/141 (18.4%)      | 2/22 (9.1%)          | .945                   |
| partner support*     | .433            | .904                | .257                 |                        |
| no                   | 27/328 (8.2%)   | 10/141 (7.1%)       | 2/22 (9.1%)          | .433                   |
| doesn't know         | 17/328 (5.2%)   | 8/141 (5.7%)        | 1/22 (4.5%)          | .904                   |
| yes                  | 284/328 (86.6%) | 123/141 (87.2%)     | 10/12 (83.3%)        | .257                   |
| academic father      | 62 (13.4%)      | 27 (13.8%)          | 6 (19.4%)            | .891                   |
|                      |                 |                     | 1 (6.3%)             | .396                   |
| academic mother      | 80 (17.3%)      | 44 (22.6%)          | 5 (16.1%)            | .396                   |

### Table 2: Career aspirations, analysis by gender

|                      | Medical specialties | Surgical specialties | Gynecology-Obstetrics |
|----------------------|---------------------|----------------------|------------------------|
|                      | total n = 462       | men n = 98           | women n = 195          | p value                |
|                      | men n = 31          | women n = 16         | men n = 10             | women n = 57           | p value |
| academic father      | 62 (13.4%)          | 27 (13.8%)           | 6 (19.4%)              | 1 (6.3%)               | .396    |
| academic mother      | 80 (17.3%)          | 44 (22.6%)           | 5 (16.1%)              | 4 (25.0%)              | .466    |
| Master of science | .227 | .103 | .001 |
|------------------|------|------|------|
| unintended don't know wished but not expected desired and planned already achieved | 267 (57.8%) | 44 (46.9%) | 114 (58.5%) |
|                    | 36 (7.8%) | 13 (15.7%) | 19 (9.7%) |
|                    | 62 (13.4%) | 16 (16.3%) | 23 (11.8%) |
|                    | 56 (12.1%) | 18 (18.4%) | 24 (12.3%) |
|                  & 19 (61.3%) | 4 (12.9%) | 2 (6.5%) |
|                  & 6 (19.4%) | 0 (0.0%) | 2 (12.5%) |
|                  & 2 (12.5%) | 2 (12.5%) | 6 (19.4%) |
| PhD in science | .151 | .240 | .004 |
| unintended don't know wished but not expected desired and planned already achieved | 326 (79.6%) | 58 (59.2%) | 140 (71.8%) |
|                    | 69 (14.9%) | 17 (17.3%) | 24 (12.3%) |
|                    | 16 (3.5%) | 7 (7.1%) | 7 (3.6%) |
|                    | 48 (10.4%) | 16 (16.3%) | 22 (11.3%) |
|                    | 3 (0.6%) | 0 (0.0%) | 2 (1.0%) |
|                  & 23 (74.2%) | 5 (16.1%) | 0 (0.0%) |
|                  & 3 (9.7%) | 0 (0.0%) | 0 (0.0%) |
|                  & 15 (93.8%) | 1 (6.3%) | 0 (0.0%) |
|                  & 4 (40.0%) | 0 (0.0%) | 3 (30.0%) |
|                  & 0 (10.0%) | 1 (10.0%) | 8 (80.0%) |
| Publicatio n article | .035 | .412 | .34C |
| none in progress | 257 (55.6%) | 44 (44.9%) | 120 (61.5%) |
|                    | 132 (28.6%) | 38 (38.8%) | 46 (23.6%) |
|                    | 47 (10.2%) | 10 (10.2%) | 17 (8.7%) |
|                    | 26 (5.6%) | 6 (6.1%) | 12 (6.2%) |
|                  & 14 (45.2%) | 11 (35.5%) | 6 (19.4%) |
|                  & 7 (43.8%) | 8 (50.0%) | 1 (6.3%) |
|                  & 6 (60.0%) | 2 (20.0%) | 1 (10.0%) |
| Post-residency | .049 | .075 | .001 |
| PHC-attach assistant doesn't know fellowship | 24 (5.2%) | 6 (6.1%) | 10 (5.1%) |
|                    | 199 (43.1%) | 33 (33.7%) | 91 (46.7%) |
|                    | 79 (17.1%) | 15 (15.3%) | 37 (19.0%) |
|                    | 160 (34.6%) | 44 (44.9%) | 57 (29.2%) |
|                  & 0 (0.0%) | 9 (29.0%) | 3 (9.7%) |
|                  & 9 (63.4%) | 2 (12.5%) | 4 (25.0%) |
|                  & 1 (6.3%) | 2 (20.0%) | 0 (0.0%) |
|                  & 0 (0.0%) | 0 (0.0%) | 8 (80.0%) |
| Wants to do research | .067 | .608 | .001 |
|                    | 117 (25.3%) | 37 (37.8%) | 49 (25.1%) |
|                    | 37 (25.3%) | 37 (25.1%) | 49 (25.1%) |
|                  & 6 (19.4%) | 2 (12.5%) | 5 (50.0%) |
|                  & 0.608 | 2 (12.5%) | 5 (50.0%) |
|                  & 0 (0.0%) | 0 (0.0%) | 8 (80.0%) |
| Wants to teach | .001 | .002 | .003 |
|                    | 200 (43.3%) | 57 (58.2%) | 170 (38.3%) |
|                    | 57 (58.2%) | 170 (38.3%) | 170 (38.3%) |
|                  & 2 (12.5%) | 2 (12.5%) | 9 (90.0%) |
|                  & 20 (64.5%) | 20 (70.0%) | 20 (70.0%) |
| Career envisioned | <.001 | .039 | <.00 |
| private practice hospital staff physician academic medicien doesn't know | 77 (16.7%) | 17 (17.3%) | 34 (17.4%) |
|                    | 220 (47.6%) | 39 (17.9%) | 96 (49.2%) |
|                    | 54 (11.7%) | 26 (26.5%) | 14 (7.2%) |
|                    | 111 (24.0%) | 16 (16.3%) | 51 (26.2%) |
|                  & 12 (38.7%) | 10 (32.3%) | 3 (9.7%) |
|                  & 6 (19.4%) | 6 (19.4%) | 6 (19.4%) |
|                  & 2 (12.5%) | 2 (12.5%) | 6 (19.4%) |
|                  & 12 (38.7%) | 10 (32.3%) | 3 (9.7%) |
|                  & 6 (19.4%) | 6 (19.4%) | 6 (19.4%) |
|                  & 2 (12.5%) | 2 (12.5%) | 6 (19.4%) |
|                  & 12 (38.7%) | 10 (32.3%) | 3 (9.7%) |
|                  & 6 (19.4%) | 6 (19.4%) | 6 (19.4%) |
|                  & 2 (12.5%) | 2 (12.5%) | 6 (19.4%) |
Table 3: Priorities, analysis by gender

| All specialities | Medical specialties | Surgical specialties | Gynecology-Obstetrics |
|------------------|---------------------|----------------------|-----------------------|
| total n = 462    | men n = 98          | women n = 195        | p value               |
| Family Life      | 4.50 (0.04)         | 4.61 (0.73)          | <.001                 |
| Leaside          | 4.18 (0.04)         | 4.15 (0.76)          | .006                  |
| Freedom of timetable | 4.09 (0.04) | 4.06 (0.79) | .838                |
| Financial Compensation | 4.06 (0.04) | 4.07 (0.95) | .665                |
| Social Recognition | 3.76 (0.04) | 3.98 (0.93) | <.001               |
| Interest of the professional activity | 3.63 (0.04) | 3.54 (0.87) | .584                |
| Intellectual stimulation | 3.39 (0.05) | 3.29 (1.01) | .057                |
| Transmission of knowledge | 3.03 (0.05) | 2.94 (1.08) | .459                |

| Mean (DS)        | men n = 10          | women n = 57         | p value               |
|------------------|---------------------|----------------------|-----------------------|

Question asked: ‘For the following elements, please rank from 1 (least important) to 5 (most important) their importance for your future self-fulfilment?’ Mean (DS)

Table 4: Potential obstacles to an academic career, in the total population and among those with academic aspirations, analysis by gender

| All specialities | Medical specialties | Surgical specialties | Gynecology-Obstetrics |
|------------------|---------------------|----------------------|-----------------------|
| total n = 462    | men n = 98          | women n = 195        | p value               |
| Do you get advice from an academic physician about your future career? Yes (n,%) | 212 (45.9%) | 87 (44.6%) | .029                |
| Do you feel you are supported when you work on a research project? Yes * (n,%) | 145/229 (63.3%) | 58/100 (58.0%) | .080                |
| Do you think that | 213 (46.1%) | 83 (42.6%) | .477                |

| Mean (DS)        | men n = 10          | women n = 57         | p value               |
|------------------|---------------------|----------------------|-----------------------|

| Mean (DS)        | men n = 10          | women n = 57         | p value               |
|------------------|---------------------|----------------------|-----------------------|

| Mean (DS)        | men n = 10          | women n = 57         | p value               |
|------------------|---------------------|----------------------|-----------------------|

| Mean (DS)        | men n = 10          | women n = 57         | p value               |
|------------------|---------------------|----------------------|-----------------------|
it's possible to reconcile (in terms of time) research activity, teaching and clinical practice? Yes (n,%) 

|                      | Yes | No | p     |
|----------------------|-----|----|-------|
| Among the academic doctors on staff who you know, would you say that some are models for you? Yes (n,%) | 297 (64.3%) | 69 (70.4%) | 120 (61.5%) | .134 | 22 (71.0%) | 7 (43.8%) | .069 | 10 (100%) | 38 (66.7%) | .0 |

If yes, are they mainly the same sex as you? Yes (n,%) 

|                      | Yes | No | p     |
|----------------------|-----|----|-------|
|                      | 150/297 (50.5%) | 43/69 (62.3%) | 44/120 (36.7%) | .001 | 21/22 (95.5%) | 7/7 (28.6%) | <.001 | 7/10 (70.0%) | 18/38 (47.4%) | .2 |

Have you already experienced discrimination or prejudice due to your gender? Yes (n,%) 

|                      | Yes | No | p     |
|----------------------|-----|----|-------|
|                      | 175 (37.9%) | 6 (6.1%) | 111 (56.9%) | <.001 | 3 (9.7%) | 13 (81.3%) | <.001 | 2 (20.0%) | 23 (40.4%) | .2 |

Do you have doubts about your ability to pursue or succeed at an academic career? Yes (n,%) 

|                      | Yes | No | p     |
|----------------------|-----|----|-------|
|                      | 239 (51.7%) | 40 (40.8%) | 129 (66.2%) | <.001 | 10 (32.3%) | 6 (37.5%) | .866 | 3 (30.0%) | 34 (59.6%) | .2 |

Do you think that your career plans would have been different if you were a member of the opposite sex? Yes (n,%) 

|                      | Yes | No | p     |
|----------------------|-----|----|-------|
|                      | 134 (29.0%) | 17 (17.3%) | 76 (39.0%) | <.001 | 11 (35.5%) | 3 (18.8%) | .423 | 2 (20.0%) | 16 (28.1%) | .3 |
Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

TableS1.docx
STROBEchecklistcrosssectional.doc
TableS2.docx