

Attitudes towards female PhD supervisors: mothers, bitches, role models?

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Abstract

This paper explores the attitudes of PhD students towards their female supervisors using a two-step approach. First, a small interview-based survey was conducted with female academic staff in departments of the Faculty of Science and Engineering which resulted in three recurring themes being identified. These are the experience of different expectations regarding their (1) roles, (2) contributions, and (3) authority as supervisors. Following this, support for the findings from the interviews was sought in existing literature.

1 Introduction

Women are still widely underrepresented in senior academic positions, and especially in science and technology faculty departments [5, 4]. Despite the large body of research conducted to try to explain this gap and active initiatives taken to reduce it, the differences persist. As reported by the European Commission in the *She Figures 2018* report, in the EU-28 in 2016, women represented 46% of grade C academic positions, 40% of grade B and 24% of grade A academic positions [4]. This gap was much wider in STEM (science, technology, engineering and mathematics); women here held 35% of grade C, 28% of grade B and 15% of grade A academic positions. As follows, academia remains a male dominant environment with expectations on senior academics defined based on male characteristics and male attitudes. In the long run this has a proven dramatic negative effect throughout all stages of women's academic careers [15]. With this in mind, an interesting and highly relevant aspect to explore within the academic landscape is the attitudes and expectations directed towards female academics in their roles as supervisors of PhD students.

Research has shown that there is bias in attitudes and student evaluation scores favouring male over female teachers in undergraduate studies [3, 11]. There is lack, however, of similar studies examining the attitudes of doctoral students towards their supervisors. Furthermore, even though many studies have been performed on the role of gender in the supervision experience from the PhD student perspective [9], less focus has been put on the experience from the supervisor's perspective.

Academic position per Department at LiTH

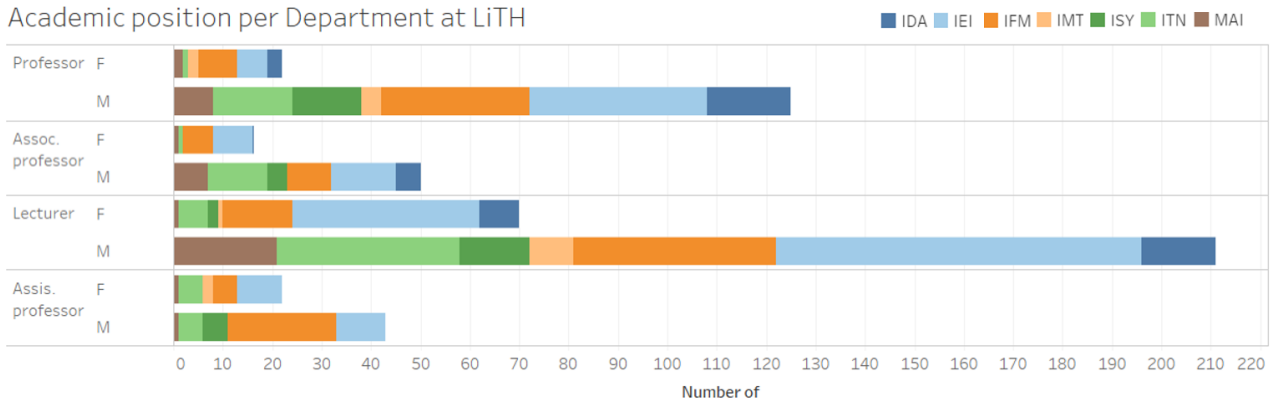


Figure 1: Number of male vs female employees at different academic positions in the Faculty of Science and Engineering at Linköping university.

This paper takes a first step towards addressing these shortcomings following a two-step approach. First, a small scale interview-based survey was performed with female academic staff in departments of the Faculty of Science and Engineering at Linköping university (LiU), in order to explore the extent to which they have perceived gender based discrimination in the attitudes of the PhD students they are supervising. The findings from the interviews were summarised into several recurring themes. Second, support for the findings from these interviews was sought in existing literature.

2 Background & motivation

The motivation for this paper came initially from the personal experience of a female faculty member, lets call her Jane, in supervising an international male doctoral student, lets call him Paul. Jane together with two male colleagues (John and Mike) were the supervisors of Paul and had regular meetings with him to plan and discuss his work. During the meetings Paul would always refer to the male supervisors by name; “As John suggested ...”, “Let’s try the idea of Mike”. But the student would never refer to Jane by name, instead it would sound more like “She said...”, “Her suggestion...” etc. Furthermore, when discussing work suggestions made by Jane, Paul would seek eye contact and confirmation from his male supervisors. Even when these suggestions were clearly in the area of Jane’s expertise, her word didn’t seem to be enough.

Discussing this incident with Jane brought up numerous questions concerning attitudes toward female academics in general, and within the PhD supervision setting in particular. Moreover, questions concerning gender bias and gender distribution at LiU were discussed. Even though we live in Sweden, one of the most gender equal countries worldwide, an inquiry on statistics on the current gender distribution in academic positions at LiU revealed a wide

Docent per department at LiU

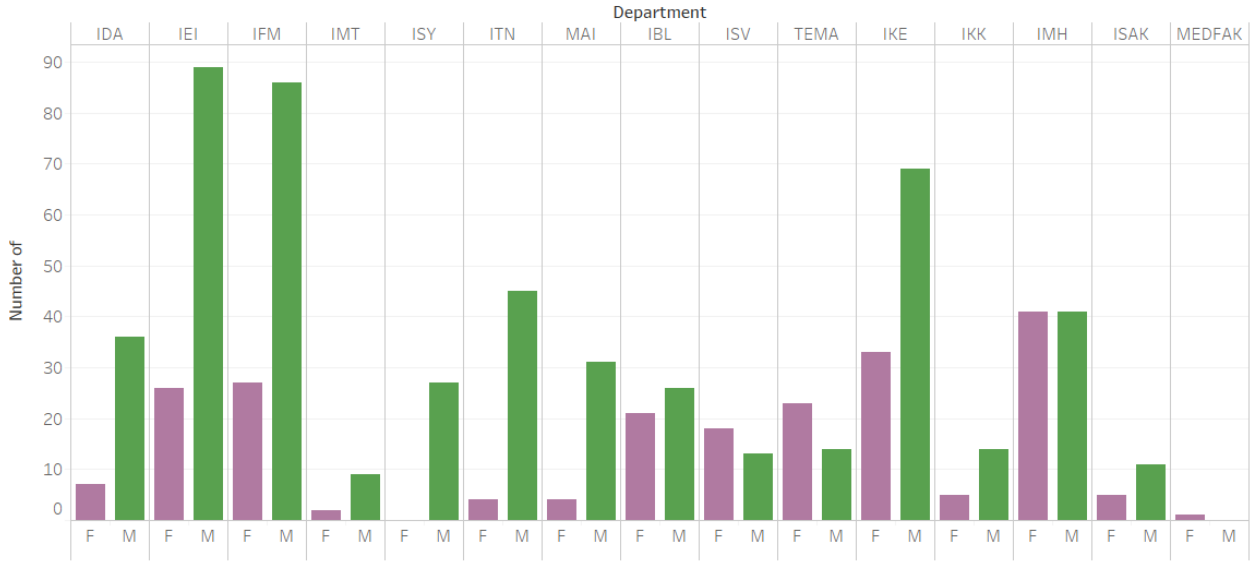


Figure 2: Number of male (green) vs female (purple) holding the academic title of Docent per department at Linköping university.

gap. Among all the academic positions at LiU, 38% are held by women. When looking only at the Faculty of Science and Engineering (LiTH), which includes the departments of Computer and Information Science (IDA), Management and Engineering (IEI), Physics, Chemistry and Biology (IFM), Biomedical Engineering (IMT), Electrical Engineering (ISY), Science and Technology (ITN), Mathematics (MAI), that number goes down to 23%. Breaking the latter up by academic positions, at LiTH women hold 15% of Professor positions, 24% of Associate professor positions (Biträdande professor in Swedish), 25% of Lecturer positions, and 34% of Assistant professor positions (Biträdande universitetslektor in Swedish). Figure 1 shows the detailed distribution of academic positions between men and women per department in LiTH. As expected a similar distribution is observed for academics holding the title of Docent. Figure 2 shows the number male vs female Docent at LiU. One can see that the gap is much wider in departments belonging to LiTH compared to other departments. Only 18% of the Docent at LiTH are women (70 out of 393), while at LiU in total women make up for 30% of academics holding the title of Docent.

Seeing these numbers makes it once again obvious that even in Sweden, the technical faculties are still very much *‘a man’s world’*. How this affects the environment of female academic staff and the attitudes towards them becomes thus a burning and interesting matter to discuss.

Having these events and numbers as a starting point this paper set out to further investigate:

- Whether there are any recurring gender biased themes in how female supervisors experience/perceive PhD students' attitudes towards them.
- Whether these themes are reflected in the current literature.

3 Method

Semi-structured interviews were performed with four senior female faculty members, within LiTH departments, all of which had experience in supervising PhD students. The following questions formed the starting points of the interviews which were freely discussed from the perspectives of the interviewees.

1. Have you perceived any discriminating behaviour from a PhD student based on your sex?
2. Have you felt that your authority has been questioned by a PhD student because of your sex?
3. Have you experienced a difference in attitude of a PhD student between you and a male co-advisor?
4. Have you experienced a difference in expectations of a PhD student compared to a male co-advisor?

A summary of the collected material was made and recurring themes were identified within it. The small survey that was performed was then complemented with a literature review that attempted to explore whether the identified themes were reflected in the ongoing related research.

4 Results of survey

Many interesting discussions took place during the interviews conducted with female academic staff. The experiences of gender bias during interactions with students at both undergraduate and graduate level were numerous. Gender differences were observed in the attitudes and expectations of students towards themselves, their supervisors, their fellow students. It was in fact very difficult to keep strictly to the specific discussion subject that was of interest for this paper. Multiple anecdotes and personal experiences were brought up. Overall, there were three prominent themes relating to the topic of the paper that came up in some form during the interviews. Only these themes will be considered in the following.

The first theme is the experience that *different roles* are expected from female PhD supervisors compared to their male colleagues. The interviewed women commented that they felt they were expected to attend to matters other than strictly academic ones; to be more

caring and open, even to take on a mother-like role at times. This was true of both male and female PhD students. Female students were often the ones that were confining more to the supervisors and searching to discuss more personal matters. This was not necessarily perceived as a negative or unwelcome attitude. Although, the risk of getting too close was brought up; one of the supervisors made a point that she is trying not to get too involved, not to talk about private matters with students because she risks losing her authority in that way. What was noted as negative in the discussion about women's expected roles was the commonly large contrast in the expectations from male supervisors (or male co-supervisors) and moreover the fact that these 'caring' traits are often perceived as a "weakness" or "softness" of women.

The second theme that emerged was the experience of a *difference in the expected academic contributions* to the work of the PhD student. In a setting of two co-supervisors of the same academic rank but different sex, the female co-supervisor commented on that she feels she is expected to contribute more actively to paper writing and even to take on practical research tasks. She comments: *"If I object to that role and point out that I am not supposed to be doing the practical work itself but assisting in the process then I feel I am seen as the harsh one."* Another relevant comment that arose was the experience that females put more effort into the supervision; they are more actively involved and guiding/steering the student more closely. There is the risk of "oversupervising" the student as a consequence, which is not always the most productive approach in the long run. In general, the female supervisors felt they were expected to act more as collaborators rather than "inspectors" during the PhD work by both male and female students. This was not perceived as negative, in fact it was the role they themselves would rather have, but did not want to be looked down on for it.

The third theme is concerned with an experienced difference in *attitudes* of students *towards the supervisor's authority* depending on supervisor gender. This theme is very prominent in the story of Jane (section 2). First the student was persistently referring to her in a more informal and downgrading way compared to her male colleagues, and second the student appeared to be seeking male confirmation to the research related suggestions made by her. Even though the experiences of all supervisors interviewed were not as pronounced as that of Jane, all interviews did suggest that students tend to change their attitudes depending on who is present in the room. In some cases where the female academic was holding a co-supervisor position the feeling was expressed that a student would more often be challenging/doubting rather than listening/trusting the female supervisor. Another example experience expressed by a supervisor was that she always felt respected by her students during their meetings and work together. However, in settings where another prominent male figure was present she would typically lose her authority and all students would look up and try to impress the male colleague, even if she was their supervisor and by far the domain expert in the room. This attitude of challenging or diminishing female authority was perceived as appearing primarily in male rather than female students. Female PhD students would often seek a more informal relationship with their female supervisors sooner compared to their male colleagues. But at the same time more often than not the supervisors didn't feel doubted by female students but

instead looked up to.

5 Related research

Interestingly, there is not a large body of research available discussing gender bias issues in the attitudes of PhD students towards their supervisors. Meek [10] made an attempt to narrow this gap by investigating the question of whether there are differences in expectations of academic staff relating to their gender. She explored whether PhD thesis acknowledgements can be used to reveal gender bias of PhD students towards their supervisors. A corpus of 113 theses was collected and their acknowledgements were analysed for their length, thanking strategies, sources of support and structure. Based on the collected data, the study could not answer whether different skills or types of support are expected from supervisors depending on their gender. The author comments that this could be because of the public nature of the acknowledgements. There were tendencies in the data, however, for male supervisors to be acknowledged for their humour and intellectual characteristics, which was not the case for female supervisors. Also female students were more likely to include comments relating to domestic responsibilities, which did not appear in the theses of male candidates. These tendencies, Meek notes, reflect the traditionally assigned and/or expected gender based roles of both candidates and supervisors.

The role of the doctoral supervisor has traditionally been occupied by men and is therefore often linked to male characteristics such as agency, independence and assertiveness. This spills over to assumptions about how “proper” supervision should be performed in terms of relationships to the students and contributions to their research work. Johnson et al. [7] explored the problematic ideas of autonomy and independence that guide the prevalent pedagogic practices. In their work they note that traditional practices of doctoral supervision assign commonly the supervisor the role of the “authoritarian inspector” who oversees the work but does not get too involved since the goal is for the student to be independent. Alternatively, the supervisor could apply a more subtle invisible pedagogy to steer the student but the goal is the same and the role of the supervisor is still that of the ‘master’. Such expectations can create a problematic situation for female supervisors who may not identify with this (male) role of the master but rather have a different approach to the supervision, or who are not perceived as fitting this role by their students based on gender related leadership stereotypes.

Women supervisors are often more actively engaged in the supervision, as also suggested by the conducted interviews. As such new traditions of supervision need to be introduced and accepted that better match what are considered female traits. In fact, traits traditionally considered female are proving to be at least as useful in the PhD supervision setting. Howells et al. [6] studied the effect of bi-directional gratitude practices in the student-supervisor relationship and find that it can lead to better communication, well-being and research outcomes. Aitchison and Mowbray [1] point to the under recognised importance of emotion during the doctoral studies and the effect this can have in the doctoral process and results. The so-

lution is not always to suppress or restrain from showing emotion, even though this is the expected behaviour. Creating an environment of empathy and support should be more highly prioritised.

Bartlett and Mercer [2] suggest new metaphors for describing the supervisor/student relationship and collaboration that go against the prevailing norm and are potentially more compatible with female characteristics. They talk about the candidate/supervisor relationship as being a cooperation in the kitchen of two skilled companions each bringing different ingredients and recipe knowledge to the table. This metaphor, suggest the authors, could ease the pressure of having the work of the candidate examined since it presumably would be *“easier to write for friendly ‘guests’ rather than demonised interrogators”* [2]. The second metaphor considers the candidacy a garden to be created and the supervisor the neighbouring gardener that has knowledge about the terrain and weather changes in the area. This metaphor puts the thesis in a larger perspective, where at some point the candidate and supervisor have to decide that the garden/thesis is ready but the career of the candidate and thus their garden can/will continue growing. The final metaphor considers the candidate and supervisor as companions going for a walk in the bush. Each of them has different gear and resources with them and they are interchanging and complementing each other on the way. In this metaphor the need of a leader is lifted as important at times but this leadership can be shifted between companions depending on the circumstances.

Even if new standards are set for the supervisor role and supervision expectations, in order for any real change to take place the differences in attitudes relating to the authority of women supervisors compared to their male colleagues have to be confronted and overcome. Such differences become commonly apparent in the way students address or refer to their male vs female supervisors. Meek [10] could not find evidence of this in her study of PhD thesis acknowledgements but there is plenty research confirming it in the study of student evaluations. Mitchell and Martin [11] for example explored the relationship between gender and student evaluations of teachers and found that women tend to be referred to in a lower rank compared to men; they are more likely to be labelled a “teacher” than a “professor”. Similarly, Terkik et al. [14] find that students are more likely to refer to their male instructors with their academic title (e.g., Prof., Dr.) and by their last names. While, female instructors are more likely to be referred to by first name or by descriptors that do not reflect their academic status (e.g., the teacher or the instructor).

The problem again seems to be that, because traditionally positions of power have been occupied by men, also authority is commonly associated with male characteristics. According to Rudman and Kilianski [13], who explored why men are preferred as leaders compared to women, this is the main reason behind prejudice toward female authority as opposed to gender role beliefs and gender stereotypes.

6 Conclusions

Prejudice and gender bias continue to rule the academic world, especially in STEM, creating this way a disadvantageous situation for women in the field. The interviews and related literature examined in this paper suggest that the traditional role of women in academia in general and in the PhD supervision setting in particular has to be reconsidered and redefined.

There is a clear problem in attitudes toward female academics in general and hence also towards their roles as supervisors that does not start from the students but from higher up. One of the interviewed supervisors mentioned several personal experiences relating to this during her career. As she put it “*As long as you are a small flower they will happily include you and help you rise, but as soon as you start growing into a stronger tree they will try to cut your branches off.*” Research shows that gender inequality is present throughout the academic careers of women and manifests itself in institutionalized policies and subtle biases, rather than open discrimination [15]. The consequent problem of women reaching a glass ceiling has often been studied and documented in literature [8, 15, 4] and is even reflected clearly in the statistics of academic staff distribution reported in section 2.

Research proposing new approaches to the PhD supervisor/student relationship that better characteristics of and expectations on female supervisors are in place (eg. [2, 12]). In addition, as Winslow and Davis [15] suggest “a growing number of men want to be an egalitarian partner and having (more) children but see academic life as incompatible with those goals”. Until there is a shift in the expectations of a “successful” academic and the institutional policies that facilitate work–life balance among academics, more research on how men’s experiences begin to mirror women’s can be expected also [15].

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