



International Journal of
Gender, Science and Technology

<http://genderandset.open.ac.uk>

Excellence as a Gender-Biased Concept and Effects of the Linking of Excellence with Gender Equality

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ABSTRACT

This paper focuses on the subjectivity of evaluations of excellence in promotion and hiring processes in academia and on the accompanying factors for successful careers in Science and Technology (S&T) disciplines. Against the background of the disproportionately low rate of appointments of female scientists to professorships in Germany, the article analyses how the demands of gender equality and the concept of excellence are negotiated at a German university that was successful in the German Excellence Initiative. The implementation of the excellence process was accompanied by a discourse of linking excellence with gender equality. This article draws on qualitative data from interviews with researchers at different levels of their scientific careers. It can be shown that researchers, regardless of their scientific experience, perceive equity measures in appointment procedures as undermining the meritocratic principle. Rather, most of them think that societal conditions outside the scientific system are responsible for the underrepresentation of women in professorships and other top positions in academia.

KEYWORDS

Social construction of excellence, meritocracy, career paths in science and technology, promotion and recruitment of women in academia

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INTRODUCTION

Excellence has become a buzzword that entered academia at the end of the 20th century at a time of ongoing organizational change in academia. This change resulted from the introduction of the principles of New Public Management into academic organizations. It is narrowly linked to the discourse of meritocracy whose principles should guide staff recruitment and career progression. Excellence is commonly considered the most important factor in recruitment processes for academic positions at each level in science. In this context, the principles of meritocracy are rarely challenged; there is common belief that academia is based on a meritocratic system, even though inequality in the career paths of minority groups are obvious (Bagilhole & Goode, 2001). However, gender scholars have questioned the concepts of meritocracy and excellence and analyzed the processes that undermine its principles and which contribute to the reproduction of inequality in academia (Skully, 2002; van den Brink & Benshop, 2012; Beaufaÿs 2003, 2007; European Commission 2004, 2012; Rees, 2011; Śliwa and Johansson, 2014). They began to de-essentialize the concepts of meritocracy and excellence and showed how they are socially constructed and how the notion of excellence is not based on a clear definition.

Thus, the selection of the best candidate for a professorship position does not take place in a non-coercive space. The way in which excellence is generally constructed and evaluated in specific situations such as the appointment process – in this context in natural sciences (in particular physics), engineering, and technology disciplines (S&T) which are characterized by a continuing under-representation of women – can contribute to an understanding of the ways in which constructions of excellence are connected to the reproduction of inequalities in the academic system. The findings of a study on perceptions of S&T researchers of excellence discussed here refer to a specific national context with its respective gender policies and cultures. Nevertheless, analyzing the logic of academic practices in S&T disciplines from a national perspective can provide general insights about how excellence is constructed and why it contains a gender bias that produces inequality. This research supports other findings, for example, in the UK, which show that “one of the consequences of contesting meritocracy by those who feel disadvantaged by the meritocratic system is, paradoxically, its perpetuation and even its further strengthening” (Śliwa & Johansson, 2014 p.823). Accordingly, it shall be questioned what the strong underrepresentation of women in S&T subjects with its accompanying minority status (Kanter, 1977) means for hiring processes regarding professorship positions in these male dominated professions and how gender bias emerges in specific situations.

The context of German higher education and the discourse on Excellence in Germany

As the Glass Ceiling Index indicates, the leaky pipeline and the glass ceiling in science persists in Germany as well as in most of the European Countries (She figures 2015, p.136). Although there has been some change in the representation of women in leadership positions, such as professorships and university boards, women are still underrepresented in these positions in Germany. For example, the proportion of women professors increased from 11.9 percent in 2002 to 19.9 percent in 2011, and 22 percent in 2014. In the S&T disciplines, the representation of women over the same time developed was from 9.5 percent to 11.1 percent in 2011, and 13.1 percent in 2014 (Gemeinsame Wissenschaftskonferenz, 2016). Consequently, since the beginning of the German Excellence Initiative in 2006, there has been strong pressure on universities to advance gender equality through the policy of its central initiators – the government, the Science Council and the German Science Foundations (IEKE, 2016). Key elements were fostering women's scientific careers and increasing the number of women in professorships.

Two further important initiatives underlined the importance of pushing gender equality in academia and establishing it as an important issue for the managers of universities: the *Professorinnen-Programm* (female professorship programme) (Zimmermann, 2012), and the Programme of the German Research Foundation (DFG) "*Forschungsorientierte Gleichstellungsstandards an Hochschulen*" (Research-oriented Standards on Gender Equality at Universities) (DFG, 2008). In particular, the Professorinnen-Programm which was introduced by the government in 2008 with the aim of appointing 500 female professors, was a very concrete measure to increase the numbers of female professors at German universities. It evoked much criticism among researchers because it was seen as undermining meritocratic principles within recruitment processes at universities.

The statistics (see figure 1) reveal that especially in the S&T disciplines these programs proved to be effective. The leaky pipeline in these disciplines is rather marginal. At the beginning of the academic career trajectory, the leaking out of women scientists in S&T is not significantly higher than for women in other disciplines. However, because of the low proportion of women who undertake undergraduate degrees in S&T disciplines, the proportion of women remains quite stable in comparison to the other academic disciplines across the career trajectory. In fact, the strong under-representation of women scientists in S&T disciplines can become an advantage for them to reach senior positions. Figure 1 shows that on the level of appointments to professorships in the period from 2010 to 2012, women in S&T were appointed proportionate to their representation based on prior levels of qualification.

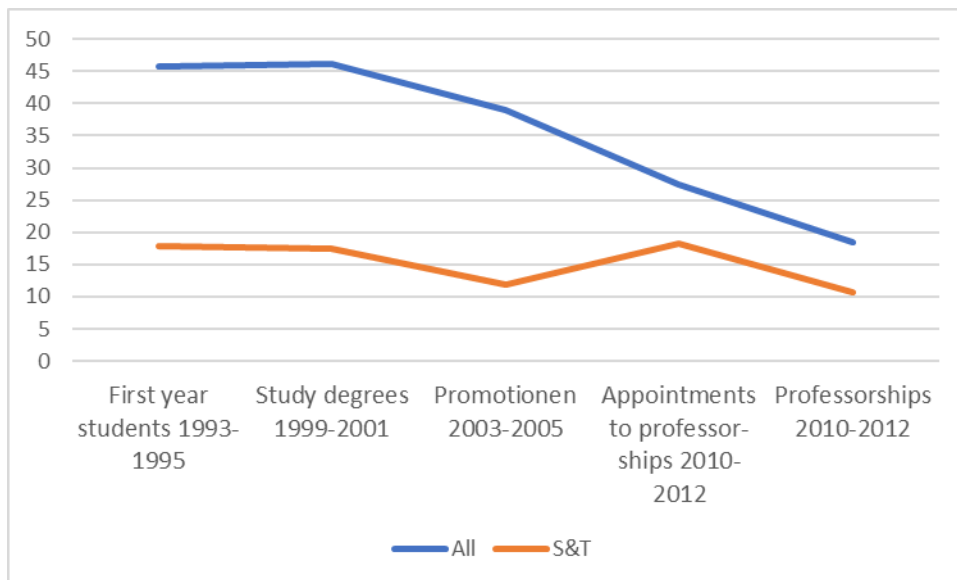


Figure 1: The leaky pipeline in S&T disciplines (Sciences, Mathematics, Engineering, Computer Sciences) in comparison to all academic areas in Germany (Data source GWK 2014; author's compilation; "Promotionen" is equivalent to PhD degrees)

The excellence discourse in the German higher education system accelerated during the implementation of the German Excellence Initiative. The aim of this politically driven initiative was to identify and foster outstanding universities which produce "world-class research" that is highly visible and competitive internationally (IEKE, 2016 p.5). However, it was also used to link research excellence with gender equality (IEKE 2016: 28). Moreover, the implementation of gender equality concepts and measures and their effect on the increase of the proportion of female researchers became one indicator in the evaluation of research proposals and of the university as whole (GWK, 2009: §3 Abs. (1), DFG & WR, 2015 p.119). Many university boards translated this new development into a demand to recruit more women and to develop programs to foster young female researchers. One effect of this new gender policy was that pressure developed especially in disciplines with low proportions of female scientists, such as the S&T disciplines. Thus, the competition among universities within the Excellence Initiative resulted in a visible appointment practice of women, in particular in the S&T disciplines (cf. table 1). Against this background, the paper explores how researchers in S&T disciplines perceive the politically linked connection of gender equality and excellence and consequently the political pressure of realizing gender equality in academia with its effects on recruitment and promotion processes.

Throughout the analysis, I approach excellence and meritocracy as a discourse which is invoked by the research participants when they reflect on the system within which they try to build their careers. These discourses may also reveal the composition, reproduction and legitimation of power relations in the university. Finally, the findings reveal that excellence is a hegemonic discourse that veils the practices of inequality (cf. van den Brink & Benshop, 2012). Addressing gender equity by utilizing strategies such as managing by objectives regarding the share of women in professorship positions, which was perceived as quotas by most of the

respondents, threatens the belief in the meritocratic system. The implementation of these strategies at the universities evoked discourses about discrimination that affects men. The discourses on standards of excellence which are allegedly lowered for women in hiring processes to fulfill quotas, reveal deep gender inequality in the perception of individuals.

The paper provides an overview of the research landscape regarding excellence from critical gender perspectives. After explaining the methodological background of the study about the perceptions of researchers on excellence in the specific context of appointment procedures, it then discusses contestation of excellence and meritocracy in the narratives of the research participants who have experienced gender equality demands at their workplace and as members of hiring committees. Finally, it will offer concluding remarks on the conceptual and theoretical contributions of this study as well as its practical implications.

Research Review

Many studies have questioned the meritocratic principle with its purported objective criteria such as publishing in top scientific journals, keynote speaking engagements, securing funding, prizes, patents and especially the significance of scientific indices and indicators (Brouns, 2007; Dömling & Schröder, 2011; Färber & Spangenberg, 2008; Husu & Koskinen, 2010).

That doesn't mean that such criteria should have less significance in the evaluation of the scientific achievements of scientists. But it is important to recognize subjectivity inherent in applying these criteria to judge the "scientific excellence" of a researcher as Brouns points out:

Scientific excellence, by its nature, is difficult to grasp. It is generally agreed that excellence is neither a 'universal fact' nor a 'natural given', and that it would be misleading to treat excellence as a simple, easily measurable characteristic, like height or speed. Instead, it is a composite of many skills – carefulness, originality, clarity, complexity, and so forth – that are achieved through a process of training, networking, accumulation, and resources. Moreover, these qualifications must lead to visible and acknowledged achievements before they can be judged and assessed. The judgment of excellence depends on the importance that is attributed to each of these characteristics. It is a social, highly contextualized construction, and is therefore vulnerable to many kinds of biases. (Brouns, 2007 p.27)

Accordingly, some gender scholars (Schacherl et al., 2007; Beaufaÿs, 2007; Wolfram et al., 2014) perceive science as a social field by referring to Bourdieu's field conception in which academic achievements are always objects of the social balance of power.

The LERU report (League of European Research Universities 2012) demonstrates that the bias against women exists at many levels of their academic career. They face bias in relation to qualifications; this is often relatively small and may not be

obvious in individual cases of selection or promotion. But at an aggregated level this bias becomes apparent, as LERU explains: "Many mole hills become one Mountain" (P.6). Färber and Spangenberg (2008 p. 174) point out that the exclusion mechanisms for women can be found in lesser support for publications, lectures, invitations, equipment and resources during appointment negotiations. And Liedman (2006) stresses that the evaluation systems which measure the quantity and quality of publications cause problems for female researchers because networks and personal relations are determining factors in publishing in prestigious journals (cf. also Bagilhole & Goode, 2001). However, in regard to the increase in women appointed as professors, as indicated in the introduction the situation in the S&T disciplines seems to be somewhat different. It could be assumed that either the qualifications of women are no longer devalued due to their behavior as "one of the boys" (Powell et al., 2009), which expresses their commitment to the norm of masculinity (Rolin & Vainio, 2011 p. 38), or they perform so outstandingly that their achievements cannot easily be devalued when increased awareness of gender equality in science is now a factor in excellence. The contradiction between previous research and recent developments in appointment procedures in S&T disciplines in Germany will be addressed in the analysis of the empirical study below.

Van den Brink and Benschop (2012) have investigated how the construction of academic excellence translates into the set of requirements for new professors in The Netherlands and how these criteria and actual practices were used in the evaluation of professorial candidates. Their study revealed that committee members defined the excellence of a candidate in an appointment process in terms of professional qualifications, individual ascribed or attained characteristics, and network contacts. Common characterizations of an excellent academic according to committee members were

extremely successful researchers with outstanding reputations; an inspiring and innovate teacher; a strong but facilitating manager with substantive administrative experience and a sympathetic personality with an extensive and varied international network of high-status contacts who fits into the faculty, is ambitious and willing to work in excess of full-time hours, and who is successful in gaining research funding (van den Brink & Benschop, 2012: 6).

We found similar expressions in our FESTA studies on concepts of excellence in the working environment as well as on excellence evaluations of candidates in appointment processes (Salminen-Karlsson et al., 2014; Wolfram et al., 2014) where six European partners analyzed concepts of excellence in their research institutions.¹ It is obvious that this concept contains formal criteria of excellence that are listed in the job profile. However, there is also a set of informal criteria. The important question is how gender comes into play and how it excludes female researchers' work. Van den Brink and Benschop (2012) identified biases that disadvantage the careers of female scientists; specific mechanisms of homosocial reproduction are at play which can be described as a gate-keeping mechanism that excludes anybody who differs from the prevalent norm. They describe this factor with the term "likeability". The central consideration is the committee member's

trust in the candidate's future potential for achievement. Consequently, they also argue that "academic excellence cannot be treated as an objective and measurable attribute, but that it is a social construction that is always embedded within a social context and is thus object to multiple and political influences" (p. 3).

Moreover, van den Brink and Benschop (ibid.) regard academic networks as disadvantageous for women in science and research because "women are unable to benefit from the strong informal network connections in which men recommend and support each other, cite each other, and keep each other informed" (p. 11). Against this research background, one can ask if women who are successful in their subjects behave like men and are therefore admitted to male networks. Although Sagebiel (2013) found in a survey of networks of engineers in enterprises that female engineers are excluded from the relevant networks, the question can be raised if the same situation applies in academia or under which circumstances women are admitted to male networks. Finally, there is some evidence that only those women who act and behave like "one of the boys" (Powell et al., 2009) and are free from obligations such as child care are successful in science (Krais, 2008). The question therefore arises about how the implementation of gender equality measures that are discussed as quotas among researchers are perceived by male and female researchers in the S&T disciplines in regard to excellence. Do they evaluate them as harmful to the meritocratic principle or do they welcome these measures because the under-representation of women in the disciplines and in professorships is obvious?

METHODOLOGY: RESEARCH CONTEXT AND DATA COLLECTION

This article draws on the gender equality discourse that arose during the German Excellence Initiative and which linked gender equality in science with scientific excellence. This linkage got serious traction because universities were required to set up a gender equality plan as part of their institutional strategies which were evaluated as important in competition for resources and reputation among German universities.² Even though the development of a gender equality plan was not directly mandatory, universities without these plans were not successful in the competition.

Although the case study presented here is limited to the German higher education system, it provides the opportunity to examine this context in detail, to understand the concept of excellence and its evaluative practices as well as the strategic practices that are applied by researchers and evaluators (cf. Lewis and Cooper, 2005; Buzzanell & D'Enbeau, 2009, cit. from O'Connor et al.: submitted). This is an empirical, qualitative study that was carried out in 2012 at a German university that gained the status "Excellence University" within the German Excellence Initiative. The aim was to investigate the social construction of excellence in the daily environment of researchers as well as in promotion, recruitment, and selection processes of young researchers and of researchers aspiring to full professorships. The study was undertaken as part of an EU-funded cross-national study (cf. Wolfram et al., 2014).

Although central themes were derived from the literature (cf. table 1) and informed the semi-structured, qualitative interviews, the methodology was reflexive and in the tradition of grounded theory (Strauss & Corbin, 1990/1996). Thus, the research was open to new perceptions, insights, and conclusions which can be connected to the research body of scientific excellence. The sample included both men and women involved in evaluative activities, particularly in selection boards for professorships, as candidates in these selection processes, or as young researchers who were evaluated in their daily work.

A total of 32 respondents were interviewed: sixteen women and sixteen men. Thus, women were clearly overrepresented in the sample in comparison to their representation in the S&T disciplines. Seven young female and seven young male respondents were interviewed about their perceptions of excellence based on their daily work experience in science – including promotion and selection processes. In the interviews, respondents were asked to describe the criteria they used to evaluate the “excellence” of candidates in recruitment processes and in their daily working environment. They were also asked about their ideas of why women leak out of academic careers and what possibilities they saw to foster women in academia. We tried to motivate the respondents to talk about critical incidents and experiences and not to limit their experiences to generalities. The interviews averaged one hour. They were tape recorded and transcribed. The analysis was supported by the software program MAXQDA.

Thematic analysis was used to reveal the complexities of meaning given to excellence and its definition and to identify the evaluative practices of the researchers. The main codes were oriented to the central themes of the interview guide. It contained the following main codes / concepts: scientific achievements of researchers, the fit of the scientist as a member of the scientific community, the fit of the scientist with a specific social background, acknowledgement in the scientific community/academic reputation, and specific individual skills such as being talented, being creative and innovative (cf. table 1; Wolfram et al., 2014). These concepts were subdivided into additional codes by analyzing the interview material by means of theoretical coding (Strauss & Corbin, 1990/1996). In the first step, the material was coded in an open fashion in order to transfer phenomena into sub codes. Thereby, only those interview passages were selected which were particularly relevant for the specific research questions addressed above. In this way, the concepts could be described and scaled. In the second step, the relation between the concepts and their characteristics (sub codes) was specified. The coding was independently carried out by two members of the FESTA research team and subsequently discussed.

In the next section, the main findings of the analysis will be described briefly regarding the central concepts. However, the focus is on the question of how the perceptions of the researchers change when it comes to the ongoing discourse that links excellence with gender equality, which was strong in many of the interviews. Here, the context is particularly important because the organization carrying the label “University of Excellence” has to prove that it is not only excellent regarding research output, but also excellent in terms of gender equality. The findings reveal

that members of the university are quite aware of how excellence is applied to the organization.

Table 1: Main and sub codes of the interview analysis regarding excellence perceptions of researchers in S&T disciplines in appointment procedures and in the daily working environment

Main code	Sub codes
scientific achievements of scientists	(peer reviewed) publications, key notes, prizes, patents, funds
fit of the scientist as a member of the scientific community (proves his/her belief in science as way of life)	degree of unlimited availability, flexibility, mobility, consequences for promotion
fit of the scientist with a specific social background	no care responsibilities, married with a highly-qualified partner/lower qualified partner, consequences for promotion
acknowledgement in the scientific community/academic reputation	degree of power in the scientific community, strength of the network
specific individual skills	being talented, being creative, being innovative

ANALYSIS AND DISCUSSION

The discussion identifies individual discourses referring to the politics of gender equality and its relation to the meritocratic ideal. The discourses presented by the respondents construct the female gender as disadvantageous in the academic workplace whenever women have children. The meritocratic ideal itself with its assumption of individual achievement remains unchallenged. In contrast, active recruiting of women into professorship positions during the first stage of the appointment procedures³ together with the supposed situation that evaluation criteria are applied for female candidates in a more benevolent manner is seen as a gender equity policy that undermines the meritocratic principles and therefore is regarded as harmful for female academics. This view is shared by male and female researchers alike.

The analysis is structured as follows. First, it outlines how respondents draw on the discourse of excellence in science to explain achievement and success in academia. Then, it explores whether and in what way there are factors that hinder achievement and success and if they challenge the belief in meritocracy. Finally, it discusses how academics refer to gender equity measures that are carried out at their university.

Definitions of excellence and how to become excellent from a researcher's point of view

The analysis starts by considering how respondents draw on the discourse of excellence and their definitions of excellent researchers. It can be observed that academia appears as a meritocratic and just system. Hard work, qualifications, talent as well as specific character traits determine the distribution of rewards and career progression.

In response to the question of what constitutes an excellent researcher, interviewees identified generally accepted criteria in science: having published in high ranked journals, having been invited as a key note speaker to relevant conferences, having been awarded prestigious prizes and having gained research funds. At the same time, most of them did not believe that there was unconscious gender bias at work in the evaluation processes regarding scientific achievements of female and male scientists. Only some of the female researchers reflected on the disadvantages women face in academia or even experienced themselves:

There is the risk that a woman might be assessed and evaluated less positively because of the discrepancy in society. Indeed, this happened to me a couple of times (Sabine, Professor).

There is much leeway regarding evaluation. Reading between the lines happens with regard to gender. I definitely noticed that. In the moment I read an application, I don't only read the text but also "read" the appearance, I "read" the photo and with the photo and, I'd say, probably also the name a whole set of prejudices come into play (Tina, Professor).

However, they also emphasized that showing outstanding scientific achievement was not sufficient for being a successful researcher. Person-related traits such as being a sympathetic and serious personality and having good networks and management skills are also required - along with scientific achievements - to be successful in science. Regarding network skills, most interviewees - women and men - thought that in the areas of networking and self-presentation, men generally perform better than women and that this could be a reason why women are less successful in science. For example, one senior woman noted:

Of course, that has to do with pre-existing networks and pre-existing confidence in the way you behave and all that. And this is probably where men still have an advantage today. Often enough, even appointments committees aren't well informed and don't know about the achievements and skills of the applicant, so a big part is appearance and impact, in this moment, and whether you know someone and are known to others. And that's where women don't have as much to offer as men on average, I guess. And this maybe also holds true for the tendency to appear confident in what you do (Eileen, Professor).

Concerning the need to be sympathetic and have a serious personality, gender differences, as before, were not evident. Neither women nor men thought that they had consciously been promoted or denied promotion due to homosociality (cf. Hearn, 2012). Among the respondents there was only one woman who reported that she got no real support from her supervisor during the postdoc phase and that she had therefore looked for a mentor. Accordingly, having a mentor who supports a scientific career was considered important by nearly all interviewees, independent of their positions as junior or senior researchers.

Thus, there was a belief among most male and female researchers in the S&T disciplines that there was no general discrimination against women in the scientific

system. Rather, lack of success was explained by women's individual weaknesses. Moreover, most of them considered that societal conditions outside the scientific system were responsible for the under-representation of women in professorships.

Factors hindering the attainment of excellence.

Consequently, the main reason for women not being appointed to professorships was seen in their responsibility for child care. Since the willingness to work overtime for scientists who are genuinely committed to their research is regarded as the norm and a prerequisite for excellent research results, this cannot be realized due to lack of childcare facilities. However, no one challenged the traditional norms in science with its time-consuming culture which excludes people who cannot meet this demand. There were different opinions about the right time to have children from the perspective of male senior researchers; it was either as a PhD student or after being appointed to a professorship:

It's the same with my boss. He also started a family and had kids after he was here. In other words, the postdoc and PhD phases are actually crucial for building a solid foundation for starting a scientific career. Otherwise, you compete with people who have a publication list that you can't match. And then every university that's internationally renowned or especially ones that deem themselves excellent or leading will say that the other candidate is better suited because of the longer publication list and because there's more to expect of him or her. So, if my daughter asked me what she had to do to become professor, I would always tell her to get used to the idea of not having children until 40 (Lars, Senior Researcher,).

In contrast, two professors recommended starting with children as early as possible:

And I notice that after the PhD phase, when it comes to the question of having children and starting a family, women cut back disproportionately more, way more, than men. [...]. My hypothesis, which I can't really quantify, is that, starting around the age of thirty, the societal norms strike back. That's what I call it: "The Empire Strikes Back". And when they're out for three or four years, I cannot develop them. When they come back, all is good and this can be compensated and everyone is willing to overlook this (Uwe, Professor).

However, none of the female interviewees expressed an opinion on the right time for having children in science. It was seen as disadvantageous because at all levels of the scientific career, long hours are needed to be successful. And none of the female respondents who had children mentioned support or engagement of their husbands in terms of child care.

Nearly all respondents believed that there were no practices in science that discriminated against women. Instead, factors that hinder careers were located outside of the academic system, i.e. in the societal environment, and most of the respondents were ambivalent or negative about the current implementation of

gender equality demands in recruitment and appointment processes at their university.

Reactions to the demand of linking excellence with gender equality in recruitment processes

There were also differences in the perceptions of researchers when the notion of gender equality in academia was mentioned. Here, one contradictory standpoint refers especially to the effects of the implementation of gender equality standards at universities as demanded by the German Excellence Initiative and the German Research Foundation as a requirement to participate in the female professorship programme (cf. above). They were aware that these standards have led to a demand to recruit more female scientists to professorships at universities. In those S&T disciplines where the proportion of women is particularly low, such as computer science or mechanical engineering, interviewees considered that female scientists have an advantage in career promotion and recruitment to professorships. However, this advantage was not discussed in the frame of undermining meritocracy:

In all of the appointments committees of which I have been part of, I always had a stronger impression of the women who introduced themselves than of the men. It certainly is the case that a mediocre impression tends to linger in the memory, but the memory of a very good impression also stands out sharply in my mind. And it's my subjective impression that, in our current situation in Germany, highly qualified women have better chances than similarly qualified men - at least in computer science. Plainly because there are so few women in computer science that men and woman are happy to see female applicants. In appointment committees, I experienced that, after all of the applications were gathered or even before the start of application period, women were specifically addressed and scouted with regard to their areas of expertise and they were encouraged to hand in an application (Tanja, Professor).

Tanja stressed the issue of visibility of these women in the community and pointed out that this was an advantage if the women demonstrated good scientific achievements. But it could also be the other way around. If a woman performed negatively in a hiring process, the poor impression also remained long-lasting in the minds of the selection committee. But, in general, Tanja believed that female researchers had good chances in science and were privileged due to the politically driven demand for gender equality in academia. However, she considered these demands as just because those women had these good chances due to their outstanding achievements as well as their performance in the hiring committee. In contrast, in the S&T disciplines where the proportion of women is higher, such as in the construction sciences or the natural sciences, it seemed that the discourse on an unjust preference of female scientists in hiring processes emerged. Some interviewees pointed out that they had the impression some women were appointed to professorships although their scientific achievements "are not so bombastic". Female scientists who were already appointed feared that their own reputation would be damaged when more women were appointed to professorships only to

achieve a certain quota. And in this case they wished to maintain their minority status.

Moreover, in the interviews there were several narratives that challenged gender equality standards in appointment processes. Against the background of the university board's final decision to appoint a professor on the basis of an appointment list of three candidates proposed by the selection board, a retired professor told about the fear of members of selection boards that women scientists at the back of the list could be appointed to professorships by the university board - only to meet a certain quota. In response, some members of the hiring committee may try to avoid inviting a promising female applicant to the interview. Similarly, a female senior researcher spoke of this practice of the university board and said this could not be useful in terms of scientific requirements. However, both had only heard of the practice and had not experienced it themselves. But, in one case, a female researcher said she was initially listed below a male candidate and felt that was an injustice because, in her opinion, she had much better scientific achievements than the male candidate.

After talking with the head of the university board, it decided to put her on top of the list. Although she had this experience, she was still not sure if there were cases where women were preferred just to fulfill quotas. In another case, a male postdoc who was a mechanical engineer, had heard of an appointment process being stopped because no women had applied for the professorship position:

It happened that appointment procedures were cancelled when there were no female applicants. That happened twice to a friend of mine. It happened twice that he showed up to the audition and the whole process was dropped because no woman came or applied. And then the whole thing gets dropped and re-advertised. That's how it works. They advertised the scope of the position too narrowly if not even one woman applies - that's just not possible (Peter, Postdoc).

Consequently, the practice of hiring committees following an active recruitment strategy insofar as they look for promising female scientists and asking them to apply for the vacant professorship position, was also evaluated differently by the respondents. Some believed that gender diversity is a benefit for the departments.

Others condemn the pressure produced by the gender equity policy at their universities and its obligation for pro-active recruitment of female scientists. Interviewees who had the latter opinion raised several reasons why pro-active recruiting strategies were ineffective: in their opinion, there was strong competition between universities for the few female scientists in S&T who had shown outstanding achievements and could be appointed to professorships. These women could choose from many appointment offers. Therefore, universities with a rather unattractive location or fewer resources were in a poor negotiation position. Finally, active recruitment of outstanding female scientists was considered difficult because their partners would not be willing to move to the new working place with their wives and thus these women refuse the offer if there is no equally attractive offer

for the partner in the same city. Thus, the problem of the underrepresentation of women in S&T disciplines should be resolved at the beginning of the scientific career, which means that more women should choose a subject within the S&T disciplines.

To sum up, the argument against pro-active recruiting in early stages of the appointment procedure makes it particularly clear that there is little willingness to support gender equity demands. The reference to meritocracy and perhaps also to missing excellence when female researchers are appointed due to gender targets seems like a strategy to hide the fear of a changing culture in science in case too many female researchers, who possibly do not behave like "one of the boys" (Powell et al. 2009, Jorgensen 2002), accomplish successful careers.

CONCLUDING DISCUSSION

This article explored the discourse about the contestation of meritocracy based on the concept of scientific excellence due to gender policies that refer to an increase in the proportion of women in professorships in S&T disciplines. In these disciplines the representation of female researchers is generally low and thus political pressure is particularly high to recruit and foster women. Female and male researchers were asked to discuss the meaning of excellence in science and what was needed to become a successful researcher. During the interviews, most of the respondents mentioned the gender equality policy at their university and their attitudes to the demand to appoint more women as one measure among others of this policy. Most assessed those measures negatively and referred to the principles of meritocracy.

In contrast, the work of other researchers has shown that the principles of meritocracy at universities with their hegemonic structures "conceal practices of inequality that have nothing to do with merit" (van den Brink & Benschop, 2011 p.518; cited in Śliwa & Johansson, 2014 p. 838). These practices include citation indices, peer reviews, and grant application systems. All of these are not independent from individual network structures (Sagebiel, 2013; European Commission, 2012; Van den Brink & Benschop, 2012). However, the opportunity to build up, and participate in, networks as factor crucial for many scientific careers is mostly not reflected by academics in the frame of men's homosociality (Hearn, 2012:7) as part of the organizational culture in science, which excludes women from these networks. Rather, building networks is translated by these academics into networking competencies of researchers and thus as individual merit. This illustrates that the notion of individualism is inherent in the discourse of excellence and meritocracy (Augoustinos et al., 2005). When women are excluded from networks it can and will be, justified as their own deficit, as the interviews have shown.

Female researchers in S&T disciplines are a selected group who have already demonstrated high performance in school and university. They have a good chance of being successful in academia due to their potential for high performance (Greusing, 2015; Wolfram, 2015; Voigtmann, 2011). However, these women also feel threatened by the implementation of the gender policy at German universities and fear a devaluation of their scientific achievements through their characterization as so called quota women. Some researchers argue that women with minority status

in the workplace often follow the strategy of behaving like "one of the boys" to be accepted by their colleagues (Faulkner, 2007, 2009; Powell et al., 2011). However, Kvande (1999) found that women with minority status who resist this cultural pressure have to possess some occupational experience, an independent position in the workplace, and self-confidence. This challenging of the masculine culture is mostly practised by women who "have a 'collective feminist consciousness', or a gender-political consciousness, which in turn makes them insist on a difference" (323) to their colleagues. In engineering subjects, these women mostly have an upper-class background. However, none of the female professors in this case study challenged the masculine culture within academia.

In fact, the findings of this study confirm that the belief in the university as a meritocratic organization is widely shared and taken for granted by both senior and young researchers, as well as male and female researchers. However, we know nothing about the attitudes of researchers who dropped out of a scientific career. Young researchers do not yet have first-hand experience of whether academic progression takes place according to meritocratic principles. And most of the senior researchers whose careers were successful in academia would presumably ascribe the success to their own achievements. Moreover, these careers were realized within a scientific culture based on principles of "disembodied" researchers in the sense of "disembodied organizations", as Acker (1990) has conceptualized the blindness in organizations in relation to gender and other dimensions of inequality. This view of scientific careers as independent of any social attributes and with no social obligations outside of academia supports their view of a gender-neutrality in regard to the attainment of scientific excellence where talent alone and dedication of the individual researcher count.

Moreover, the case study demonstrates that the effects of a gender equity policy can lead to better career chances of female scientists in S&T disciplines. This policy is based on management of objectives, which are embedded in a strategy of competition among universities. However, the comparatively high appointment rate of women to professorships as a consequence of the management of objective-strategy does not change the gendered structure (Acker, 1990) in academia. There was no increased consciousness or a higher sensitivity for gender bias in the promotion and evaluation processes. Rather, this strategy evoked resistance and rhetorical strategies that devalued the achievements of female scientists. It can be presumed that the effect of this kind of gender policy will become ineffective when supportive discourses like in the German Excellence Initiative lessen.

In summary, the findings of this study confirm that what is evaluated as "excellence" and thus what is meant by "excellence" is fluid and integrated into social contexts of power. Dependent on these contexts, excellence is continually created and recreated not only by dominant players in the field but also by the dominated. In academia excellence remains closely connected with the demand of practicing "science as a way of life" (Krais, 2008), with its idea of a disembodied researcher which hardly leaves space for other kinds of life plans. Thus, a gendered culture remains at German universities, despite increased gender equality demands. However, this culture has already come under pressure among young

scientists in some European countries (cf. Salminen-Karlsson, 2014). Further support of this development is required and should target organizational structures and cultures of academia in which inequality is embedded and through which discourses of meritocracy are concealed. Challenging meritocracy without abandoning the concept and analyzing the hidden gender bias behind individual perceptions of excellence open a way to think of redefining merit in academia.

ACKNOWLEDGEMENTS

This study is part of the FESTA project, financed by the European Commission through FP7. I would like to thank all my colleagues in the FESTA project where discussions, ideas, and experiences on perceptions of excellence in the respective countries were exchanged in a fruitful and constructive working atmosphere. I also appreciate the invaluable comments and "food for thought" of the evaluators.

ENDNOTES

¹The project "Female Empowerment in Science and Technology Academia" (FESTA) is an EU-Framework 7 funded project under SiS.2011.2.1.1-1 "Implementing structural change in research organizations/universities". Seven European partners are involved in FESTA: Bulgaria, Denmark, Germany, Ireland, Italy, Sweden and Turkey. Cf. <http://www.festa-europa.eu>

² Cf.

http://www.dfg.de/en/research_funding/programmes/excellence_initiative/index.html [09.12.2016]

³ Active recruiting activities include the use of several different communication channels and researching female scientist-databases for suitable female applicants and the corresponding request for application to a professorship position in order to make sure that female candidates are aware of this position (Steinweg et al. 2014).

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