

Daddies on the Scene, Mommies at the Backstage: The Gendered Nature of German Academia

Nazlı Ayşe AYYILDIZ ÜNNÜ
Department of Business Administration
Ege University
Izmir, Turkey

Abstract

This article discusses the reasons for the under-representation of women in higher positions in German universities. Besides, the reasons underlying this problem are drawn from the suggestions of academics. The challenges faced by the academics throughout their careers, how these challenges differ by gender, and gender discrimination are also discussed to gain an in-depth insight on marginalization of women in science. The data comes from 24 in-depth interviews with academicians in a German University, which has formal equal opportunities policies and gender monitoring systems in place. System based barriers, the mutual exclusivity of career progress and family, curse of caring, lower self-confidence and efficacy levels of women, reluctance of women, lack of supportive mechanisms are stated as some of the factors, leading to under-representation of women in higher positions by respondents. These factors were mostly linked with the old idea generating from gender roles, either implicitly or explicitly.

Keywords: traditional gender roles; women's under-representation; higher education system; German academia

1. Introduction

Sex-segregation and gender-based differences in working life (Reskin 1993; Queneau 2010; Barbulescu and Bidwell 2013; Sparreboom 2014) generally and in academic life (Healy et al. 2005; Chang 2017; Lörz and Mühleck 2018) specifically, has been addressed on both national and international levels. Thus, inclusion of women and minorities in science and academia have come on the scene and become a pressing issue in not only in emerging but also in most industrialized countries, including Germany. Despite of the recent gains in educational participation and attainment, the statistics, regarding academic employment in Germany, show that academic and scientific occupations remain heavily segregated by gender, especially the highest and most prestigious ones (Statistisches Bundesamt 2017).

According to the recent statistics of Statistisches Bundesamt, the percentage of female students in 2015 is 48%. It decreases to 44.7% when the “students with doctor's degrees (promotionen)” are taken into account. The percentage of women with “postdoctoral lecturing qualifications” is 28.4 % and it decreases dramatically to 11.4% when C4 professors are considered. Since the Habilitation is the formal prerequisite to become a professor, the proportion of qualified females in Germany remains at a critical level with 22.7 %. As a matter of fact, the higher the level of academic profession, the smaller the proportion of women at German universities (Statistisches Bundesamt 2017).

Besides, the proportion of women heads of institutions in the higher education sector in 2014 is only 16.5% in Germany. Women made up 25% of board members, including leaders in 2014. However, the presence of women on boards such as scientific or R&D commissions, councils, committees, foundations and academic assemblies, that usually hold a large degree of decision-making power, is significant (She Figures 2015, 142-144).

When the fields of study are considered, the proportion of women among new entrants in tertiary education varies considerably in 2014. The Federal Statistical Office also reports that the proportion of female entrants in tertiary education is especially low in engineering, manufacturing and construction (Germany: 21%; OECD average: 24%) as they are traditionally seen as “man's” job

(https://www.destatis.de/EN/PressServices/Press/pr/2016/09/PE16_328_217.html).

The studies at different countries also emphasize that, even in the countries where equal opportunities policies are conducted, the female academics work at less secure positions and their representation levels at higher positions are still lower (see Manić et al. 2018; Aiston and Jung 2015; Özkanlı and White 2008; Bilen-Green, Froelich and Jacobson 2008). Besides, it is seen that female academics are mostly clustered at academic fields of psychology, nursing, linguistics and literature, whereas their ratio in natural sciences decreases dramatically. Women have the chance of promoting to managerial and/or leadership positions in the field of humanities. However, the probability of promotion decreases in the fields of social and behavioural sciences.

When natural sciences are considered, it is almost impossible for women to promote to leadership positions (Roos and Gatta 2009; Forster 2001). The concept of gendered division of labour provides the explanatory base to such conventional segregation between productive, prestigious work and reproductive, unprestigious work (Banerjee 2018, 169). Despite of the agreement on the need for more women in science, the questions of “Why women remain marginalized?” and “Why the academia is still gendered?” should be answered for the German academic context in an in-depth manner. So, the researcher, as an outsider, aims to answer the following research questions in this article: What factors contribute to under-representation of female academics in higher positions? How can more women get to the higher positions in academia? What are the challenges faced throughout the academic career? How do these challenges differ by gender? The data for this study comes from in-depth interviews with 24 academics from “a case university” in Germany, in which the researcher was hosted in the context of DAAD (Deutscher Akademischer Austauschdienst) Scholarship for 3 months.

2. An Overview of the German Higher Education System

The German higher education system has undergone a profound transformation since the introduction of the Bologna Process (Yazici 2017, 202). Besides, Germany experienced considerable expansion of higher education throughout the last 50 years, moving from an elite system towards mass higher education (Vidal 2003; Schindler and Reimer 2010). The expansion of higher education has been accompanied by institutional differentiation of various kinds (Huisman 1995; Schindler and Reimer 2010).

It comprises the traditional technical and other universities, vocational colleges, colleges of art and colleges of civil administration for the training of future civil servants, especially in technical occupations. The German vocational colleges offer a more specialized education in certain fields, where experience is provided by internships, and qualified graduates of them are eligible to prolong their studies at regular universities (Fuchs 2011, 14-15). However, the system is still deeply rooted in the university tradition although it has gone through significant changes over the decades (Dessinger 2000, 607).

The universities have been shaped by Humboldt’s idea of general humanistic education. This idea can still be identified at the administrative structure of universities, characterised by self-administration, the freedom of teaching and research, and the common belief that a university should in the first place be a venue for scientific research serving both scholars and students (Dessinger 2000, 607).

The degree structures of German universities are less differentiated. There is no clear break between academic and professional degree programs and there is no equivalent to the bachelor’s degree, such as in the United States or Turkey (Fuchs 2011, 19).

Similarly, the academic career track is not characterized by distinctive building blocks. It is determined by a succession of formal qualifications provided by the universities. This succession comprises doctor’s degree studies (Promotion), followed by a phase of further postdoctoral qualification that is concluded by the Habilitation in most fields of study. The Habilitation represents the final academic qualification stage and provides a necessary prerequisite for being eligible for the professorship. However, academics completing this time-consuming task are not immediately promoted to the rank of a tenured professor after the restructuring of academia. They first have to apply for open positions at universities. Unless a successful appointment with a university has been reached, “habilitated” persons may be employed as master research assistants at universities (Fuchs 2011, 19-20).

A junior staff member cannot be promoted to a professorial position within the same institution by law. Regulations, concerning employment in the higher education system in Germany, stipulate that academic personnel can be employed with a fixed-term contract for up to six years. After completing a doctorate, further fixed-term employment is possible for up to six years. The transition to an unlimited contract (e.g. professorship) should not succeed within these twelve years, further employment at a university is only possible through externally funded projects. The regulations permit parents to extend the duration of fixed-term employment by up to two years per child in need of care (Langfeldt and Mischau 2018, 148).

Next to this, junior professorship position has been created to enable post-docs to do autonomous research in an earlier stage of their career (Delhvi and Süß 2016, 11). It is formally no more expected to write a habilitation in this position. The junior professorship, not directly comparable to an associate professorship in the US or a lecturer or senior lecturer position in the UK, allows independent academic research and budget responsibility. Experienced postdocs can also choose a third path and become a junior researcher group leader at universities or research institutions to qualify for a professorship or another academic leadership position (Langfeldt and Mischau 2018: 148).

Finally, there is no clear break between academic qualification and employment, such as teaching obligations. They go hand in hand as early as in the course of doctor's degree studies (Gumport 1992, 1118).

2.1. Gendered Nature of Academia in Germany

There are numerous studies that examine the "woman question" in science in Germany (Majcher 2002; Zippel et al. 2016; Shinozaki 2017; Pritchard 2007; Schenk and Krimmer, 2003; Costas et al. 2014; Sagebiel 2014; Fuchs et al. 2001). According to Fuchs and his colleagues (2001, 185) these studies can be categorized into two groups: 1) Studies focusing on the salience of gender as a social category at universities 2) Studies that underline the sequential character of women's marginalization. These studies, mainly with female academics, have shown that female academics: receive less support and mentoring than their male counterparts; need supportive male advisers to be successful owing to a lack of female professors, have fewer networks, and work in less prestigious fields of study; are rarely represented in influential commissions and committees; are less often asked than their male counterparts if they are available for positions; are disproportionately employed in fixed-term contracts, are considered as 'newcomers' or 'strangers' in science; perceive the male dominance in academic and scientific environments as hostile; have to choose either successful career or having children and families.

So, promoting gender equality via legal initiatives and financial incentives (Majcher 2002), increasing women's status in with family friendliness (Zippel et al. 2016), listening to experiences of migrant academics (Shinozaki 2017), designing a new staff structure to overcome gender inequality due to career structure and credentialism (Pritchard 2007); integration in a social network and creating individual relationships between mentor and protégé (Schenk and Krimmer 2003), being a part of informal and formal networks (Sagebiel 2014), redesigning scientific and academic organizations to increase career opportunities for women (Fuchs et al., 2001) are drawn from the suggestions of the aforementioned studies.

Despite of touching many dimensions of women's marginalization, these earlier studies often lack the perspectives of male scientists. Besides, most of these studies are either based on surveys or secondary data, however the researcher seeks a deeper information than is sought in surveys. Thus, this qualitative research explores factors, affecting gendered nature of academia generally and under-representation of women in senior positions specifically, in an integrative and in-depth manner.

3. Method

Semi-structured in-depth interviews were conducted with 24 academics from a case university in Germany. The case university has formal gender monitoring mechanisms, such as a "Woman's Bureau" and "mentoring programmes", targeting female academics. A diverse group of academicians were targeted in terms of professional and managerial experiences, gender, age, marital status, ethnicity, academic ranks, disciplines, and cross-cultural academic experiences to reach various perspectives, consistent with the maximum variation sampling method. The demographics of the participants are presented in Table 1.

Table 1. Profile of the Participants

Age	Gender	Marital Status	Number of Children	Department	Current Position	Managerial Experience	Nationality
59	M	Ma	2	American Studies	P	Chair	G
38	M	R	0	Japanology	J P	None	G
44	M	Ma	0	Psychology	P	Chair	G
24	M	S	0	Organizational Psychology	R A	None	G
28	M	R	0	Management	R A	None	G
45	M	Ma	3	Educational Science	P.	Chair	G
42	F	Ma	2	Japanology	L	None	G
27	F	S	0	Management	R A	None	G
35	F	Ma	0	Computational Linguistics	P L	None	C
42	F	Ma	2	English Linguistics	L	None	G
43	F	R	1	Public and International Law	P	Chair	G
29	F	R	0	Management	R A	None	G
31	F	S	0	Management	R A	None	G
26	F	R	0	Business Administration	R A	None	G
27	F	Ma	0	English Linguistics	R A	None	I
39	F	Ma	2	Slavistik	L	None	R
30	F	S	0	Public Law	R A	None	G
43	F	Ma	2	Management	P	Chair	G
37	F	Ma	0	German Studies	J P	None	G
45	F	Ma	1	English Linguistics	P	Chair	G
25	F	R	0	Business Administration	R A	None	G
60	F	Ma	0	Japanology	P	Chair	G
27	F	R	0	Management	R A	None	G
43	F	Ma	3	Educational Science	J P	None	G

**R A: Research Assistant, P: Professor; J P: Junior Professor; L: Lecturer; P L: Part-time lecturer;

***G: German; R: Russian; I: Iranian; C: Chinese;

****Married: Ma; In a relationship: R; Single: S

4 pilot interviews were conducted to develop the final interview structure and to revise the question list. Each question targeted a major category (under-representation of women, suggestions, discrimination, challenges faced by the academics, managerial experiences) to gain an in-depth insight, regarding the gendered nature of academia. A short one-page questionnaire was also designed to elicit socio-demographic and familial information.

All interviews were conducted based on the consent of the interviewee. An interview protocol, which guided the implementation of the interviews to ensure consistency between interviews, was used to increase the reliability of the findings. To complete the sample and fill gaps in participant characteristics, snowball sampling was also used. Interviews were conducted in person in a private room based on the participants' choice. Interviews lasted between 45 and 65 minutes and were audio-recorded with the permission of participants. Data collection continued until theme saturation was reached. The interviews were fully transcribed by the author. MAXQDA 12 program was used for qualitative content analysis. Directed content analysis approach was adopted as the codes were derived from both theory and relevant research findings (Hsieh and Shannon 2005).

4. Findings and Discussion

The findings of the research are categorized as “dynamics of under-representation of women in higher positions”, and “suggestions to overcome under-representation of women in higher positions” based on the major themes and sub-

themes. A detailed discussion is given by taking the links and relationships of emerged themes/sub-themes into account. Besides, it is aimed to further research opportunities, by comparing the findings with the existing literature.

4.1. Dynamics of Under-representation of Women in Higher Positions

While respondents were pointing out the factors leading to under-representation of women in higher positions, 4 major themes emerged out of the comments of them. Challenges faced throughout their academic careers were also questioned and given to have an in-depth insight, regarding the research questions.

Problem/Challenge 1: Patriarchy & Traditional Gender Roles: The old idea, generating from traditional gender roles, which is deeply ingrained in society, were highly emphasized as the major reason for the under-representation problem by the interviewees. The common way of thinking “prestigious positions naturally go to men and whilst ignoring a woman with equal professional standing as the man” was prevalent in the comments of many female interviewees. While discussing the effects of traditional gender roles, a large group of academics referred to gender discrimination. However, the approaches of male and female academics towards discrimination problem were quite different. Male academics reported that there was “positive discrimination” against females due to mentoring programmes, commissions and mechanisms, targeting only women. As a male research assistant stated, such guiding mechanisms should be initiated regardless gender: *Female colleagues have advantages such as funding opportunities, which are only for women. I have to apply for other scholarships, which is quite competitive. We have Women’s office and it is quite easy to get funding from there. I have no such opportunities. There have been some workshops, which were also interesting for me, but I couldn’t attend them because I am a “man”.*

However, the female academics emphasized promotion systems and application processes as discriminative against women. They stated that “Men are automatically thought as competent during application processes.” Some of the female academics especially emphasized that, women with a different ethnic and cultural background, would come across with discrimination more.

A lecturer, from a different ethnic background, and a female part-time lecturer made these observations, respectively: *I applied for the position in X University. The other candidate was male, and they preferred him. He only had a bachelor's degree, whereas I was working on my PhD. I actually had more experiences but they chose him.*

Even they are telling that they care about diversity they are not willing to hire women in reality. They think that a woman will spend a lot of time for her family, give birth and then take maternal leave. They say that they offer positions based on academic qualifications and everything is gender free. However, how can women publish as many papers as men when they are on maternal leave? They do discrimination.

It is important to note that this prevalent feeling was not the result of attitudinal discrimination solely, but was natural result of a promotion system that lays almost total emphasis on candidates' publications records.

Gendered communication styles and stereotypes were also stated as factors, leading to gender discrimination, by a significant number of female participants. Interestingly, a few of them said that younger female colleagues might also have gender stereotypes for female academics, who have children or willing to have children. On the other hand, none of the male academics had made such attributions about gender stereotypes. A senior lecturer captured the sentiments of the female interviewees: *Once I was doing qualification courses at the university. There was an informatics professor teaching a course. He said that men would be more intelligent than women and added that people, who don't know what to do in life, go and learn language and smart people go and learn mathematics. The elder male professors do that. Young women, who have no children, may also think such a way. They don't understand that it is normal to be a mother and a scientist. I am trying to make it possible.*

In line with these findings, traditional gender roles were reported as factors leading to under-representation of women in working life (Bark et al., 2014; Emslie & Hunt 2009; Evans & Diekmann 2009) and academic life (Cervia and Biancheri 2017; van Anders 2004) in earlier studies at various contexts.

The “curse of caring” was found as one the major hindrances for equal access of women to higher positions. A lecturer, in Japanology department captured the sentiments of the other interviewees: *Everything seems to be gender free. However, it is not due to different socialization of females and males. When women work in a team, they try to be nice and they are not as competitive as men. But even little boys are already raised to be better than the others. For instance, female colleagues in my department are taking more responsibility to take care of students, other colleagues, such as remembering the birthdays, dealing with organizations. This takes a lot of energy. It is very important, but not recognized. Male colleagues have a lot of research projects. They often go abroad. It reminds me a traditional family. Mothers are taking care and dealing with housework and daddies are outside for representing the household.*

This finding was in parallel with the caring tendency of women that has been noted by various researchers in other contexts before, apart from Germany. As Hey and Bradford (2004) had also stated, females are reluctant to give up “caring” and may “do femininity” in the service of the university. In the evaluation of academics by students, there is evidence (Carson 2001) that ‘sexist’ students expect women academics to adopt a feminine style to be acceptable. This is necessary for respectability and popularity but, paradoxically, being approachable may lead to loss of academic credibility, and devoting a great amount of time to teaching rather than research (Pritchard 2007, 658). As a female academic from Computational Linguistics stated: *We spend more time for our students rather than thinking about our research. My husband, who is also an academic, doesn't consider what students really need. They ignore details, such as students' feelings.*

The issue of combining work and family life was another problem indicated by both male and female academics. There was a prevalent feeling that it becomes “a must” to stop working due to dependence of children on their mothers, especially in the early years of development, which hinders women’s integration into academia for a while or permanently. Here is a representative comment of a female academic: *The most challenging thing was the habilitation thesis period. Our boy was born but I had to finish the habilitation. It was quite hard to balance them.*

Participants also emphasized the lack of supportive mechanisms, such as childcare centres within the university or nearby. However, male participants and a female participant, who has no kids, think that female colleagues “prefer” to stop working. A married female colleague, who has no children made these observations: *A lot of women in this phase have children and they say “Okay! I have a child, and it is more important. I have to deal with my kids and husband.” I heard that scenario so many times and I am annoyed with it.*

Interestingly, some of the female participants said that there are some male colleagues, who are willing to take parental leave and take care of their child(ren) but they cannot do this as it is not expected by the society. Despite of culturally embedded perceptions of gender roles, successful career in science is still mutually exclusive with having children and families, at least for women professors. During the interviews it became apparent that even considering and asking for maternity leave was counter-productive and reduced women's promotion opportunities.

Problem/Challenge 2: Hindrances Arising from Higher Education System: A few of the problems, such as obligatory choice between career and family (Fuchs 2001), being employed in fixed-term contracts and part-time work (Fuchs 2001; Majcher 2002), arising from the structure of German higher education system are visible in earlier studies. However, this was only the half of the story. Female participants emphasized lack of childcare centres, ineffective equality quotas, lack of various positions, insecurity and commuting problems, ending up with challenges regarding work-family life balance as hindrances arising from higher education system. On the other hand, male academics did not mention about neither insecurity nor commuting problems. During the interviews, it became clear that male academics don't see commuting and/or insecurity as challenges due to the effects of traditional gender roles, as these roles enable them to move or change positions freely, whereas women should stay at home to deal with the undervalued household and care work.

A group of female academics also emphasized that the awareness and consciousness levels of male academics about gender related matters should be increased via programs designed at a national level, by higher education authorities. Comments of the two female academics, from different academic ranks and experiences, represent the feelings of other female interviewees: *There should be programs, designed by government and higher education policy makers, to increase the awareness levels of males. In our university “Equality” matters. When there is a free academic position it is always mentioned that “women and handicapped people are privileged”. This is only written on the paper. It would be very important to have an equality quota, which is supported with such awareness programs, until the conditions for females and males are really equal.*

I don't want to go on my academic career after I defend my doctoral thesis. I wanted to be a professor, but it is really hard for women. You have to change your workplace due to short-term contracts, find funding for your projects. If you can manage all, then you have to move to another place for a free professorship chair. It is easier to earn a living in private sector and have a balanced family life.

Problem/Challenge 3: Individual Factors: Most of the female academics, regardless age and position, reported that males are more efficient and their self-confidence and self-efficacy levels are higher. However, none of the male academics made such attributions. Besides, female respondents emphasized that male scholars also come across with similar challenges throughout their academic careers, however they do not interpret them as challenges due to their higher self-confidence levels and behavioural tendencies to trial and error.

It is important to note that the socialization of women and gender stereotypes were especially emphasized by the female scholars as hindrances for higher self-confidence and efficacy levels. This is in parallel with the “women-warm, men-competent” stereotype, which was found by Ebert et al. (2014) in diverse samples of women and men in Germany.

Gender roles also emerged as a theme when the reasons for under-representation of women were discussed, whereas it emerged as a sub-theme of reasons for lower self-confidence levels. These overlapping themes indicate that gender roles lead to under-representation of women both directly and indirectly by ending up with lower confidence and efficacy levels.

A married female academician captured the sentiments of many other women: *I've never heard a man saying that he cannot answer the question or he doesn't know how it works. In a job interview, women are always too ready to admit that they don't know something. So, it's the gender roles, the bringing up, probably also the stereotypes.* Similarly, a young academic, in Business Administration Department, stated: *When we are in the lesson, boys first raise their hands. They don't think so much about their acts, responses. While doing academic work, they also do so. Even if they fail, they do it again and again. However, women think more before they do something and always want to do the things perfectly.*

Reluctance of women also emerged as a sub-theme. Choices between career and children, destructive competition were reported as reasons underlying the reluctance of women. Especially male and single female academics emphasized this factor as a hindrance for higher positions and leadership. For instance, a male research assistant from Psychology department stated: *I think they don't apply for professorship positions. They don't really want it.*

Similarly, a young female academic from Management department made these observations: *They prefer other things in life, like having free time for family or for the partner. Most of the women think that they are caregivers. There are less women, who is willing to reach higher positions. There is big competition and pressure at the university and you have to deal with many problems. Women don't want it.*

In parallel with these findings and observations, the female participants stated that they face challenges due to their managerial roles, however none of the male participants, who also have managerial roles, had mentioned about such challenges. For instance, a female professor stated: *I need to learn to delegate, give positive feedback and effective use of resources. This is a challenging learning period.*

Finally, most of the female academics and a few of the male academics reported that female networks are not as large and supportive as men's. Female academics emphasized that female colleagues or professors do not act as role models and encourage younger female academics to progress in academic career and/or participate in management and decision-making mechanisms such as committees, councils. A married female professor of Educational Sciences made these observations: *It is somehow typical that male professors are supporting male students. Why female professors are not mentoring or coaching their colleagues? I think some have such a mentality: "I made it, it was hard and it should be hard for others as well".* When most of the female colleagues became professors, they forget how hard the phases were.

Integration in formal and informal networks (Schenk and Krimmer 2003; Sagebiel 2014), receiving less support and mentoring than their male counterparts (Fuchs et al., 2001) were stated as hindrances for access of female academics to higher positions in earlier studies in German context as well as other academic contexts. As Faulkner (2005), in his study conducted in UK stated, women are not integrated in the masculine "beer culture" where many research projects are developed. Some female academics experience an ambivalence in joining these informal drinking sessions as well as other activities although they know that this strategy might be a successful one (Sagebiel 2014).

Problem/Challenge 4: Gendered Nature of Academia and Academic Work: Most of the female interviewees reported that that males spend more time on research activities, which are recognized, whereas women tend to focus on teaching and supervision activities, which are directly related with the general well-being of the students, however not recognized. Here is a representative comment of a research assistant from English Linguistics: *Male colleagues work more on their research and female colleagues spend more time on teaching related topics, answering the emails of students in a more detailed way, talking to them. Teaching, supervision and spending time on the students are more important for my female colleagues and me.* In parallel with this, most of the interviewees reported that males choose recognized, prestigious disciplines", such as basic science, applied science, biological science, rather than humanities and social science. As the outcomes of these gendered disciplines and research fields are more visible, men dominate higher decision-making bodies, earn more and through effective networking they enable other male colleagues to pursue aforementioned advantages as well. Here is a representative quotation from a single male research assistant: *There is more women and female students in social subjects, linguistics and psychology. However, at computer sciences, 80-90 % are males. There is more chance a male is selected as a head as there is a high baseline. These disciplines are prestigious in the society and male chairs create male-dominated student bases, and they earn more.*

Besides, difficulties in academic writing in English, using analysis methods, finding the right topic and participants, balancing teaching-researching-admin work, pressures to publicize emerged as challenges arising from the nature of academic work.

None of the male participants mentioned about these challenges, whereas a group of female scholars had stated various forms of these challenges. For instance, a female lecturer made these observations. *You need to be aware of the popular subjects and publish in particular journals to attract the attention of other colleagues. I don't mean some fields don't deserve to be researched but if you choose those topics, you just stay in the shade. Doing research is a challenge. It's really hard to find respondents for your research.*

The gendered division of academic work and workload were also emphasized as factors leading to under-representation of women in UK (see Barrett and Barrett 2011); in US (see Bird, 2011); in Netherlands (see Leisyte and Hosch-Dayican 2014) where women were excluded from research-intensive activities while they were overrepresented in teaching-focused ones.

4.2. Suggestions to Overcome Under-representation Problem

When the preceding studies are analysed, it is seen that they come up with some solutions to overcome the problem of “gender inequality” in German academia specifically. Their suggestions include family friendliness (Macher 2002; Zippel et al. 2016), legal initiatives and financial incentives (Macher 2002), listening to experiences of migrant academics (Shinozaki 2017), promoting a new career structure and overcoming the problem of credentialism (Pritchard 2007), which are in line with some of the suggestions proposed by the interviewees. However, some of these studies were conceptual ones, whereas others were based on quantitative data, in which generalizable, indirect results were drawn from participants rather than in-depth perspectives, regarding under-representation problem in higher positions and its solutions.

Which characteristics of the higher education system should change, how the mentoring programme and networking mechanisms should be structured, why and how awareness of others should be increased, the importance of hard work, self-confidence and supportive mechanisms have not been addressed in these earlier studies. So, in the light of the in-depth interviews, 3 themes emerged out of the comments of the respondents.

Structural and System-Based Improvements: There was a prevalent feeling that structural improvements such as, increasing the number of childcare centres, creating formal and institutional networks and mentoring programmes, which were also stated as barriers to equality in earlier studies, conducted at various academic contexts (see Heward 1994; Heward and Taylor 1992; Bagilhole 1993; O'Leary and Mitchell 1990) were critical but not “solely” enough. As a female research assistant from Business Administration stated: *You should improve the opportunities for women to put their children in childcare centres. If you want a family and career then you face the problem of finding a childcare unit. I spent 4 months in France and there was childcare centre within the university. It is not well organized in German Higher Education policies.*

A large group of female interviewees suggested that the job security problem, arising from fixed-term contracts and lack of various positions, should be overcome via changing the current higher education system. A few of them emphasized that applying equality quotas might be effective, whereas the others stated that “institutionalizing equality matter” might be bad. Alternatively, they proposed changing promotion criteria and designing awareness programs as suggestions. None of the male colleagues made suggestions related with system although they come across with the same challenges triggered by the system. Due to traditional gender roles male academics may overcome the problems related with the system by commuting, as it is normal for them to be on the scene, however females should be the one staying at home and dealing with household tasks. This senior lecturer, who has an international experience, captured the sentiments of the other female colleagues: *Lots of people have short-term contracts. They can't have family, can't plan. They have to commute. Especially women can't have families. They made universities like companies. If you want to have more female professors in academia you have to change the system. You have to offer a variety of positions, especially for postdocs. There are some universities, applying equality quotas. It's not effective. You have to employ equal number women, but what if there are more qualified men? The problem starts much earlier. It's the woman, who has fewer publications due to parental leave or can't commute to find a position and that's what the decision is made on.*

Increasing Awareness of People: In parallel with the structural improvements, most of the female interviewees stated that the mindset of people in the society should change. The awareness of people should be increased via effective programmes, role models, and other supportive mechanisms, such as commissions, organizations like “Women's bureau” that are initiated at national level. Although increasing awareness of people, regarding gender-related issues were suggested by many female academics, none of the male interviewees had mentioned about it. Even this finding might show that males are not aware of the gender-related problems as much as their female colleagues. Mechanisms, that encourage and support women to have equal opportunities, such as Women's bureau, were not suggested by males, as they find these mechanisms discriminative.

Comments of the two female academics, with different marital status and academic ranks, represent the feelings of other female interviewees: *There is a women's bureau, which pushes females to academic positions and supports them. However, we are not aware of what certain actions are considered as discriminative acts. Our awareness should be increased.*

We have to not only improve the conditions, such as childcare units but also include some males to change their consciousness. There are some chairs, in which male professors take parental leave, but they are exceptions. We have to increase consciousness of people as always discussed by politicians but nothing is done yet.

Besides; mentoring programmes, structured to increase awareness of women and strengthen them throughout their academic careers, were suggested by both many female and a few male scholars. For instance, a male research assistant stated: *Female professors should encourage younger ones. There was a Canadian female professor when I was there and she was mentoring female colleagues. That was great.*

Increasing Self-Confidence Levels of Women: Both male and female participants suggested that women should increase their self-awareness and focus on their strengths, rather than weaknesses. For instance, a male research assistant stated: *I think women often undervalue themselves. Speak up, be confident, and don't let men dominate you.*

Being present and part of social networks were also suggested by both male and female interviewees to increase self-confidence and self-efficacy levels. A male Professor of Psychology made these observations: *Social networking is very important! You have to make yourself visible so people can recognize you. If you don't present your ideas, your research results, there will be always others, who do this. They will always be more recognized than you. I think women don't do this as much as men do. Female scholars should present their ideas, build networks and help each other.*

However, it was specifically emphasized by male academics that being a part of “beer culture” is solely not enough, additionally the female academics should be more visible in academic networks, like conferences, seminars, workshops and such events.

The following comment of a female lecturer from Computational Linguistics is very representative: *I think men are more straightforward and very good at networking. They have their aim in mind. They talk about it and say, “Let's drink a beer together” and then directly say, “Let's do this project together, let' attend this seminar together.” But women would first be engaged a person in a conversation and try to get to know him or her and go through a lot of pre-stages until they come to their final purpose. Such networks should be structured by universities and role models.*

This suggestion was highly in line with the theme of “hard work” which was again stated by male interviewees rather than female ones. A group of male academics suggested that female colleagues should work harder to be a part of decision-making bodies and progress in their academic career. This finding is also in parallel with the reluctance of women for leadership positions, which had emerged as a reason for under-representation problem. A senior male professor made these observations: *I am in the research committee and all of the members at professorship level are men. If we have so few female scholars it means that they have to work a lot, do more administrative tasks because they are so few at such settings.*

5. Strengths, Limitations and Future Research Directions

There were both advantages and disadvantages to make this research as an outsider. Firstly, all of the participants felt free to share their ideas without fear of censorship or criticism, as I was an outsider, who would leave the university and country after the research. Besides, most of the participants found the topic very interesting and mentioned that they were interested in ongoing debates on gender roles and academia. My gender (female) may have inhibited how interviewees spoke with me about the under-representation of women in higher positions, however the interviewees' openness and detailed responses to the questions not suggested such inhibition.

On the other hand, a group of predetermined respondents, whom were mostly from departments, such as Mathematics, Business Informatics, and Computer Sciences, responded that they wouldn't be able to participate, as they were about to leave the university due to expiration of their fixed-term contracts, sabbatical purposes and/or research activities. Thus, as the interviews had to be conducted within 3 months' scholarship period, the snowball sampling method was used after a while, to complete the sample and fill gaps in participant characteristics. Use of snowball sampling may have oriented the sample toward the extremes – those, who are particularly aware or unaware of gendered nature of academia; but the range of the interviews did not bear this dichotomy out. However, the number of male interviewees still remained less than expected. The lower participation of male academics, especially from these gendered disciplines, such as Mathematics, Business Informatics, and Computer Sciences, may even explain why the awareness, regarding gendered nature of academia is still low.

To strengthen the conclusions, future research may include more interviews with those, who left the academic life for different reasons and who are from various universities, and disciplines in Germany. Besides, it is found out that female academics were inclined to attribute external causes, such as higher education system-based problems, to under-representation problem, whereas male academics were inclined to attribute internal causes, such as reluctance and lower self-confidence levels, to under-representation problem. These findings should be further investigated.

6. Practice Implications

This study has shown that without changing patriarchal social structure and increasing the awareness of people, regarding gender related issues; it is less likely to overcome the under-representation problem of women in higher positions. Although there was formal gender monitoring systems in the case university, the findings highlight that what keeps women away from higher academic positions in Germany is persistent ideas about traditional gender roles, and the gap between the higher education system policies and the expectations of female academics about the actual family friendliness of the policies. ,

Therefore, to overcome the problems of German higher education system, gendered disciplines and academic workload, lower self-confidence levels and reluctance of women, curse of caring and lack of supportive networks and female role models, which are mostly arising from the traditional gender roles and thinking patterns;

- Higher education policy makers and universities should take a more active role in education and promotion of gender related issues via development of gender sensitive programs, which are aiming to increase awareness of not only academics but also the society,
- Teacher training programs should be designed to encourage women to go to “male dominated” disciplines and men to “female dominated” ones,
- The necessary changes in higher education system should be initiated as the employment of more female professors and leaders, serves as a role model. For instance;
 - Revising the promotion policy by changing the emphasis on research and publication outputs that male academics traditionally have more time for to lecturing quality, counselling and other community activities mostly conducted by female academics,
 - Increasing variety of positions, such as assistant and associate professorship; offering more junior professorship positions; extending the duration of fixed-term employment to overcome the problems of job insecurity and commuting, which end up work-family life balance challenges,
 - Supportive mechanisms, such as workshops, organizations (e.g. Women’s Bureau) should be initiated regardless gender, as targeting only women may lead to positive discrimination and othering of men,
 - The importance of parental leave for father's involvement in early child development (Almqvist and Duvander 2014), should be emphasized and male academics should be encouraged to take parental leave via “quota systems for parental leave for fathers”
 - Research should be conducted on availability and accessibility of childcare units in universities. Investments should be made to ensure that each university has daily care centres.
 - Successful female academics, especially the ones, who have managerial roles and good communication skills, should be determined and trained to be coaches and mentors for younger colleagues.
- Gender quota statistics should be reported annually for each university. “Gender quota” system should be set up for the universities, where women are under-represented not only in higher positions but also in various academic positions and ranks.
- More modern gender roles should be presented not only in curricula and textbooks but also in everyday life of students, such as during the communication with teachers and among peers. Curricula should be enriched with cases and best practices of other countries and universities, to increase awareness on gender roles, gender inequality and discrimination. Gender-related courses should be designed and offered as compulsory courses in the context of formal education plans in earlier years of education.

Conclusion

In the light of these comprehensive findings and aforementioned statistics, regarding academic employment in Germany; policy-makers, scientists and society all need to consider whether the higher education system can afford to lose such a large number of trained female academics due to challenges they face. The consequence of the current system is that a large percentage of female colleagues, especially the research assistants are not considering to continue academic career, whereas senior ones would like to stay just as lecturers rather than struggling for higher positions such as being a chair, and professor. Thus, these people are not reinvesting their skills in the economy and scientific world, owing to traditional gender roles that are no longer in accordance with the demands of modern women and men.

The necessary system-based changes should be initiated to ensure that men and women who want to have families are not prevented from also having careers and contributing to academic world in every way that they can. This can only be achieved by a significant change in the way that society and individuals “think” about the roles of men and women, and by taking positive action to improve the academic working conditions and available support for both women and men at all stages of their careers.

Acknowledgements: The main data for the present article comes from a wider research project, funded by DAAD (Deutscher Akademischer Austauschdienst) in the context of “Research Stays for University Academics and Scientists, 2017” programme (Funding ID: 57314019). The author would like to thank her academic contact, “Prof. Dr. Katrin Muehlfeld” for her invaluable support. Special thanks to the “hostuniversity”^{*} and the “interviewees” for their time and willingness to share their stories.

Conflict of Interest: Author has received research grant from Deutscher Akademischer Austauschdienst (DAAD) in the context of “Research Stays for University Academics and Scientists, 2017” funding programme (Funding ID: 57314019).

Compliance with Ethical Standards: This manuscript is original, not previously published, and not under concurrent consideration elsewhere.

Informed Consent: Each participant was given a letter of consent, which provided the information of the project, the rights of the participants, the confidentiality. All participants gave informed consent to participate in the study.

References

- Aiston, S. J., & Jung, J. 2015. Women academics and research productivity: an international comparison. *Gender and Education*, 27(3), 205-220.
- Almqvist, A.L., & Duvander, A. Z. 2014. Changes in gender equality? Swedish fathers' parental leave, division of childcare and housework. *Journal of Family Studies*, 20(1), 19–27.
- Bagilhole, B. 1993. Survivor in a male preserve: a study of British women academics' experiences and perceptions of discrimination in a UK University. *Higher Education*, 26, 431-447.
- Banerjee, S. 2018. From ‘Plantation Workers’ to Naukrānī: The Changing Labour Discourses of Migrant Domestic Workers. *Journal of South Asian Development*, 13(2), 164-185.
- Barbulescu, R., & Bidwell, M. 2013. Do women choose different jobs from men? Mechanisms of application segregation in the market for managerial workers. *Organization Science*, 24(3), 737-756.
- Bark, A. S. H., Escartín, J., & van Dick, R. 2014. Gender and leadership in Spain: A systematic review of some key aspects. *Sex Roles*, 70(11-12), 522-537.
- Barrett, L., & Barrett, P. (2011). Women and academic workloads: career slow lane or Cul-de-Sac? *Higher education*, 61(2), 141-155.
- Bilen-Green, C., Froelich, K. A., & Jacobson, S. W. 2008. The prevalence of women in academic leadership positions, and potential prevalence of women in the professional ranks. In Women in Engineering ProActive Network Conference Proceedings (pp. 1-11). Accessed 10 December 2017. <https://www.ndsu.edu/fileadmin/forward/documents/WEPAN2.pdf>.
- Bird, S. R. 2011. Unsettling universities’ incongruous, gendered bureaucratic structures: A case-study approach. *Gender, Work and Organization*, 18, 202–230.
- Carson, L. 2001. Gender relations in higher education: Exploring lecturers’ perceptions of student evaluations of teaching. *Research Papers in Education*, 16(4), 337-358.
- Cervia, S., & Biancheri, R. (2017). Women in science: The persistence of traditional gender roles. A case study on work–life interface. *European Educational Research Journal*, 16(2-3), 215-229.
- Chang, D. F. 2017. Effects of higher education expansion on gender parity: a 65-year trajectory in Taiwan. *Higher Education*, 1-18.
- Costas, I., Camus, C., & Michalczyk, S. 2014. Gender effects of New Public Management on subjectification: A qualitative analysis of German and French academics. In Book of Abstracts of 8th Conference on Gender Equality in Higher Education (pp. 1-10). Wien.
- Delhvi, S. S., & Süß, S. 2016. Careers and career research in Germany: a literature review. *Management Review Quarterly*, 66(1), 1-31.
- Dessinger T. 2000. The german ‘philosophy’ of linking academic and work-based learning in higher education: the case of the ‘vocational academies’. *Journal of Vocational Education and Training*, 52(4), 605-626.

^{*}Trier University, Trier, GERMANY.

- Ebert, I. D., Steffens, M. C., & Kroth, A. 2014. Warm, but maybe not so competent? —Contemporary implicit stereotypes of women and men in Germany. *Sex roles*, 70(9-10), 359-375.
- Emslie, C., & Hunt, K. 2009. 'Live to work' or 'work to live'? A qualitative study of gender and work-life balance among men and women in mid-life. *Gender, Work & Organization*, 16(1), 151-172.
- Evans, C. D., & Diekmann, A. B. 2009. On motivated role selection: Gender beliefs, distant goals, and career interest. *Psychology of Women Quarterly*, 33, 235-249.
- Faulkner, W. (2005). Belonging and becoming: Gendered processes in engineering. In J. Archibald, J. Forster, N. 2000. A case study of women academics' views on equal opportunities, career prospects and work-family conflicts in a British university. *Women in Management Review*, 15(7), 316-330.
- Fox, M. F. 1981. Sex segregation and salary structure in academia. *Sociology of Work and Occupations*, 8(1), 39-60.
- Fuchs, S., Von Stebut, J., & Allmendinger, J. 2001. Gender, science, and scientific organizations in Germany. *Minerva*, 39(2), 175-201.
- Fuchs, S. 2011. Gender Disparities in Higher Education and Academic Careers in Germany and the United States, Paper provided for the Robert Bosch Foundation Research Scholars Program in Comparative Public Policy and Institutions. Accessed 10 December 2017.
<http://webdoc.gwdg.de/ebook/lf/2003/aicgs/publications/PDF/fuchs.pdf>
- Gumport, P. G. 1992. Graduate education: comparative perspectives. *The encyclopedia of higher education*, 2, 1117-1127.
- Healy, G., Özbilgin, M., & Aliefendioğlu, H. 2005. Academic employment and gender: A Turkish challenge to vertical sex segregation. *European Journal of Industrial Relations*, 11(2), 247-264.
- Heward, C. 1994. Academic snakes and merit ladders: reconceptualising the glass ceiling. *Gender and Education*, 6(3), 249-262.
- Heward, C., & Taylor, P. 1992. Women at the top in education: equal opportunities policies in action?. *Policy and Politics*, 20(2), 111-121.
- Hey, V., & Bradford, S. 2004. The return of the repressed? the gender politics of emergent forms of professionalism in education. *Journal of Education Policy*, 19(6), 691-713.
- Hsieh, H.-F., & Shannon, S. E. 2005. Three Approaches to Qualitative Content Analysis. *Qualitative Health Research*, 15(9), 1277-1288.
- Huisman, J. 1995. Differentiation, diversity, and dependency in higher education: A theoretical and empirical analysis. Utrecht: Lemma.
- Langfeldt, B., & Mischau, A. 2018. Change and Persistence of Gender Disparities in Academic Careers of Mathematicians and Physicists in Germany. *International Journal of Gender, Science and Technology*, 10(1), 147-170.
- Leisyte, L., & Hosch-Dayican, B. 2014. Changing academic roles and shifting gender inequalities. A case analysis of the influence of the teaching-research nexus on the academic career prospects of female academics in The Netherlands. *Journal of workplace rights*, 17(3-4), 467-490.
- Lörz, M., & Mühleck, K. 2018. Gender differences in higher education from a life course perspective: transitions and social inequality between enrolment and first post-doc position. *Higher Education*, 1-22.
- Majcher, A. 2002. Gender Inequality in German Academia and Strategies for Change. *German Policy Studies/Politikfeldanalyse*, 2(3): 1-35.
- Manić, S., Joksimović, L., & Zarić, S. 2018. Vertical segregation in higher education: The case study of the Republic of Serbia. *Ekonomskihorizonti*, 20(1), 3-15.
- O'Leary, V., & Mitchell, J. 1990. Women connecting with women: networks and mentors in the United States. In S. Lie, & V. O'Leary, (Eds.), *Storming the Tower: Women in the Academic World*. London: Kogan Page.
- Özkanlı, Ö., & White, K. 2008. Leadership and strategic choices: Female professors in Australia and Turkey. *Journal of Higher Education Policy and Management*, 30(1), 53-63.
- Pritchard R. 2007. Gender inequality in British and German universities, *Compare*. 37:5, 651-669.
- Queneau, H. 2010. Trends in occupational sex segregation in the USA: Evidence from detailed data. *The Empirical Economics Letters*, 9, 1-6.
- Reskin, B. (1993). Sex segregation in the workplace. *Annual review of sociology*, 19(1), 241-270.
- Roos, P. A., & Gatta, M. L. 2009. Gender (in) equity in the academy: Subtle mechanisms and the production of inequality. *Research in Social Stratification and Mobility*, 27(3), 177-200.
- Sagebiel, F. 2014. Academic Women Leaders in STEM and their Potentials as Change Agents of Segregation. Accessed 11 December 2017.
https://gender2014.conf.tuwien.ac.at/fileadmin/t/gender2014/poster-Sagebiel_2014.pdf.

- Schenk, A., & Krimmer, H. 2003. Academic Careers in German Higher Education. (Training Papers; Vol. TP 03/02). Research Training Network "Women in European Universities".
- She Figures 2015. Gender in Research and Innovation, European Commission B-1049. Brussels.
- Shinozaki K. 2017. Gender and citizenship in academic career progression: an intersectional, meso-scale analysis in German higher education institutions. *Journal of Ethnic and Migration Studies*, 43(8), 1325-1346.
- Sparreboom, T. 2014 Gender equality, part-time work and segregation in Europe. *International Labour Review*, 153(2), 245-268.
- Statistisches Bundesamt, Wiesbaden. (2017). Education Research Culture. Accessed 10 December 2017. <https://www.destatis.de/EN/FactsFigures/SocietyState/EducationResearchCulture/EducationResearchCulture.html>
- Statistisches Bundesamt, 2017. Proportion of women, Academic career. Accessed 10 December 2017. <https://www.destatis.de/EN/FactsFigures/SocietyState/EducationResearchCulture/InstitutionsHigherEducation/Tables/FrauenanteileAkademischeLaufbahn.html>
- van Anders, S. M. 2004. Why the Academic Pipeline Leaks: Fewer Men than Women Perceive Barriers to Becoming Professors. *Sex Roles*, 51 (9/10), 511-521.
- Vidal, J. 2003. Quality assurance, legal reforms and the European higher education area in Spain. *European Journal of Education*, 38(3), 301-313.
- Yazici S. 2017. Exploring Organizational Subcultures and Strategic Goals In The Context Of A German Higher Education Institution Via The Configuration Model Of Organizational Culture. In B., Covarrubias Venegas, M.-T. Claes, & P. Namazieiacm (Eds.) 21. Century Waves of Change: Cultural Dexterity for Turbulent Times. 15. IACCM Annual Conference and 8th CEMS/IACCM Doctoral Workshop: Congress Proceedings (pp. 201-226) Accessed 10 January 2018. <https://www.sietareu.org/seucongress2017>.
- Yedidia, M. J., & Bickel, J. 2001. Why aren't there more women leaders in academic medicine? The views of clinical department chairs. *Academic Medicine*, 76(5), 453-465.
- Zippel K., Ferree M. M., & Zimmermann K. 2016. Gender equality in German universities: vernacularising the battle for the best brains. *Gender and Education*, 28, 867-885.