



Female Empowerment in Science and Technology Academia

# **Perceptions of Excellence in Hiring Processes**

**Results of mapping of the present  
situation in Bulgaria, Germany,  
Ireland, Italy, and Turkey**



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# PERCEPTIONS OF EXCELLENCE IN HIRING PROCESSES

## RESULTS OF MAPPING OF THE PRESENT SITUATION IN BULGARIA, GERMANY, IRELAND, ITALY, AND TURKEY

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Science and Technology Academia





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## **1. INTRODUCTION: PURPOSE, VISION, MISSION**

### **1.1 PURPOSE**

Excellence is considered as the most important factor in hiring processes for professorships and academic/research positions. At the same time excellence is not an elaborated concept or has a clear definition. That is the reason why the concept of excellence in academia is connected with gender bias as a number of studies have already shown (cf. European Commission 2005, Zimmermann 2006, van den Brink et al. 2006, Beaufaÿs 2007; Brouns 2007, Grummel et. al. 2009b, Rees 2011, van den Brink/Benshop 2012). Against this background the purpose of this project is to make visible the perceptions of excellence lying behind the formal and also informal criteria of excellence in hiring processes and to expose gender bias in these perceptions.

The analyses of hidden gender bias behind individual perceptions of excellence opens the way to develop a concept of excellence that is transparent and therefore gender-sensitive. The disclosure of gender-biased perceptions as well as the discussion of a transparent conception of excellence is expected to make members of selection committees aware of contributing to gender equality in selection processes in science and research.

### **1.2 VISION**

The vision of this project is that consciousness of shortcomings, unconscious application of gender stereotypes and socio-psychological mechanisms (e.g. homosociability) in selection processes gives members of selection committees a real chance to support gender equality in science careers and science organizations.

### **1.3 MISSION**

We believe that to train members of selection committees for the filling of professorships and other academic appointments in their ability to make unprejudiced and therefore gender-sensitive judgments on the excellence of scientists will contribute to more gender equality in science organizations in an important way. Therefore it is our objective to develop and carry out workshops where gender-based perceptions of excellence can be made visible and discussed among people who are appointed as members of a selection committee.

## **2. SCOPE OF WORK**

The scope of work in this project is to explore the perceptions of excellence in selection processes for professors and other academic positions. The focus is put on the explicit perceptions that are

documented in formal documents (“institutional perception of excellence”) at each partner organization as well as on the implicit and hidden perceptions of the individuals who are in the position to judge and assess the “excellence” of the candidates who apply for professorships. Further, also the perceptions of the candidates are to be explored and compared in order to see if their perceptions are similar to the institutional ones or to the perceptions of the gatekeepers. Finally, comparisons between male and female researchers will be made.

On the basis of empirical findings and other research findings, documented in the literature in the second part of this work project, awareness workshops for members of selection committees will be developed.

### **3. APPOINTMENT PROCESSES IN THE NATIONAL CONTEXTS AND METHODOLOGICAL DESIGN**

In order to map the perceptions that underlie the criteria of excellence in hiring processes each partner set out to interview selection committee members who can be considered ‘gatekeepers’ as well as successful and unsuccessful candidates about the issue of who is an excellent candidate and how this is acknowledged. It was planned that three hiring processes at each institution should be selected and interviews should be made individually. Additionally, focus groups with the entire selection committee were to be conducted. However, due to the different hiring practices in the countries and institutions, the plan could not be fully realized at each institution and alternative solutions had to be pursued. In the following the national contexts and the methodological design at each institution is sketched.

#### **3.1 APPOINTMENT PROCESSES IN THE NATIONAL CONTEXTS**

##### **BRUNO KESSLER FOUNDATION, ITALY (FBK)**

###### **1) NATIONAL CONTEXT**

The Italian legal framework on gender equality is given by the National Code of Equal Opportunities between Women and Men (Legislative Decree 198, 2006) which comprises 11 laws on equal opportunities. Its main goal is to regulate the promotion of equal opportunities between women and men in the areas of ethical, social and economic relations and in civil and political rights. The Italian government has adopted several laws to increase women’s participation in politics such as: Law No 90 (2004), concerning the election of members of the European Parliament; Law No 120 (2011), establishing ‘Equal Access to Boards of Directors and Boards of Statutory Auditors of Companies Listed on Regulated Markets’ that states that from August 2012 boards of listed companies shall include 20%

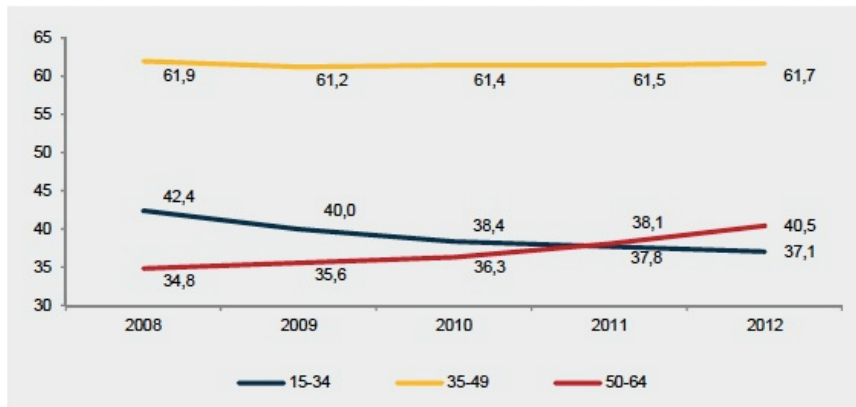
of women, and that the total number of members be increased to one third starting in 2015; Law No 215 (2012) establishing 'Provisions to promote gender balance in local governments' and regional councils; and the 'Directive on measures to achieve equality and equal opportunity between men and women in Public Administration' (May 2007), targeting central authorities and non-economic public bodies, but also regions and local bodies. On 28 October 2010 the Department for Equal Opportunities approved the first National Plan against Gender-Based Violence and Stalking. (Source: European Institute for Gender Equality, <http://eige.europa.eu/content/gender-equality-index#/country/IT>)

According to 'She Figures 2012', in Europe, only 33% of the total number of researchers and only 20% of the total number of tenured university professors are women. In Italy the proportion of women researchers is 34% and thus in line with Europe-27. In academia, as in other sectors, the glass ceiling is still very much present. Regarding the overall number of tenured professors in European countries, women represent a percentage that, varying from country to country, ranges from 10% to 30% (with peaks in the fields of the humanities and the social sciences). The presence of women, although again different from country to country, is also limited in the scientific committees and organs that guide academic institutions: for example, if in Sweden about half of the members of the academic boards in the universities are women, in Italy this percentage drops to merely 17%, placing Italy among the last places in Europe, followed only by the Czech Republic, Slovakia and Luxembourg.

In general in Italy there is an increase in women's occupation in all sectors. The increase is due to three components: the increase of foreign workers, the 148 thousand persons over fifty that, as a result of the pension reform, have remained in their work places and, thirdly, the economic crisis which has induced women to take up jobs in order to compensate for income losses of their male partners. Despite the increase in female employment due to all of these phenomena, the proportion of women employed in Italy remains far below that of the EU level (47.1% versus 58.6%)

Female employment rate by age (2008-2012):

**Figura 3.10** Tasso di occupazione delle donne per classe di età – Anni 2008-2012 (valori percentuali)



Fonte: Istat, Rilevazione sulle forze di lavoro

Finally, women in Italy continue to be paid less than men. In 2012 the Italian gender pay gap amounted to 11.5%, i.e., other things being equal, the average hourly pay of women was 11, 5% lower than that of men. A significant gender pay gap can also be found in the salaries of those who have a bachelor's degree: men who have a high level of education earn on average 19.6% more than those with a diploma. For women, on the other hand, the pay gap between the different educational levels reduces to 14.9%. (Source: *Istituto nazionale di statistica*, Istat)

## 2) APPOINTMENT/SELECTION PROCESSES AT FBK

Research positions under permanent and fixed-term employment contracts (*tenure track positions*) and temporary project-based contracts with similar remuneration are determined through open and international calls. The People Innovation Service prepares the **Recruitment Notice** which is subject to the prior authorization of the Process Initiator and is posted on the FBK website by the People Innovation Service. The Recruitment Notice must be posted on the website for at least two weeks; however, this deadline may be extended on the Process Initiator's request under the same conditions.

Setting up the Application Assessment Panel: After the deadline for submitting applications has passed, an Application Assessment Panel is set up comprising the following members:

- a. the Requesting Manager;
- b. the Head of the Research Unit concerned (Process Initiator);
- c. the Head of the People Innovation Service, or his/her representative;
- d. at least two experts in the relevant field, appointed by the Process Initiator.

If special circumstances so require, the Process Initiator may decide a different composition of the Panel, which must be specified in the Staff Recruitment Request.

### **CV screening and shortlisting of interviews**

After the closing date set out in the Selection Notice, the People Innovation Service identifies the number of applications as specified in the Notice, strictly in order of receipt, and delivers them to the Panel, which then shortlists the ones it deems most deserving.

The Panel, at its discretion, shortlists no less than 5 and no more than 20 applicants, based on the actual number of applications received.

The applications are shortlisted by the Panel according to the criteria set out in the Selection Notice and according to the CV screening results at the Panel's sole discretion. The Panel members are not required to specify and give any reasons for their decisions. The applicants' CVs may also be remotely screened by the Panel members.

The applicants not shortlisted for interviews are notified of their exclusion by email. For research positions, the shortlisted applicants are interviewed by the Panel and a number of them are required to present papers at a seminar, which is preferably held on the same day as the interview. Based on the outcome of the seminar, the Panel, meeting collectively, prepares an assessment document identifying the applicants deemed to be qualified for the relevant position and notifies the applicants of the decision. The Process Initiator, having verified that the process by the Panel and the Requesting Manager conforms to the applicable rules, shall approve the conclusion of the employment contract(s), without having the power to reconsider the application assessments made or decisions taken.

### **3) SELECTION OF APPOINTMENT PROCESSES**

At FBK we have identified three calls for tenure track for permanent research positions. The first one, in October 2012, was at the Centre of Information Technology in the field of Technology of Vision. The second one was at the Centre for Materials and Microsystems (CMM) in the 3-D Optical Metrology research unit (3DOM). This unit conducts research in accurate measurements and reality-based 3D reconstruction problems. The third call was at the Centre for Information Technology in the field of Machine Learning.

The human resources service has included in the call (published on the FBK website) the request for applicants to participate in interviews for the FESTA project. The same request was forwarded to the commissioners and to the shortlisted candidates by email. The manager of the WP then personally contacted candidates and commissioners to arrange interviews. In all cases there was complete openness and willingness to support the FESTA project

#### 4) CONDUCTED INTERVIEWS

At FBK 14 interviews were conducted, all related to tenure-track positions. 9 committee members and 5 candidates were interviewed. The goal was to understand how the meaning of 'excellence in research' is construed in selection procedures for senior scientific posts.

<b>Members of Selection Committees</b>		
	<b>Participant</b>	<b>Date</b>
1.	Female Professor , IT	October 2012
2.	Male Professor, IT	October 2012
3.	Officer HR, Male	October 2012
4.	Male Professor, Mechanical Engineering	March 2013
5.	Female Professor, Mechanical Engineering	March 2013
6.	Male Professor, Mechanical Engineering	March 2013
7.	Male Professor, IT	May 2013
8.	Male Professor, IT	May 2013
9.	Officer HR, Male	May 2013
<b>Successful/ Unsuccessful Candidates</b>		
	<b>Participant</b>	<b>Date</b>
1.	Male Candidate, IT	October 2012
2.	Male Candidate, IT	October 2012
3.	Female Candidate, IT	March 2013
4.	Male Candidate, Mechanical Engineering	April 2013
5.	Female Candidate, IT	April 2013

## **ISTANBUL TECHNICAL UNIVERSITY, TURKEY (ITU):**

### **1) NATIONAL CONTEXT**

Despite significant progress in ensuring gender equality in Turkey, women's education and women's status in higher education is still problematic, as in many parts of the world. The present case in female representation in higher education should be evaluated in comparison with other countries. The difference between the average proportions of female researchers in the EU-27 countries and Turkey was 1.5% in 2003. In 2010, the difference decreased to 0.7%. This result indicates that although Turkey was still ahead of the EU average in 2010, the rise of the proportions of female researchers in EU countries is likely to close the gap in the near future. When the rates of women holding a PhD degree is compared to other EU countries it can be seen that Turkey's rates are very close to the rates of the EU-27 and EU-25 countries. Furthermore, it can be observed that in Turkey, proportions of female researchers with a PhD degree in such fields as natural sciences, mathematics, computer science, health sciences, engineering, manufacturing and construction exceed those of their counterparts in the EU-25 countries. (cf. EC 2013)

When the statistics from She Figures 2012 (EC 2013) concerning female academics at different levels of academia are examined, Turkey's rate is ahead of that of the EU countries at the Professor, Assistant Professor and Research Assistant Levels. If the total rates are examined, Turkey is roughly at the level of the European average of 40%.

What is more important, with a value of 1.52%, Turkey is the country showing the lowest glass ceiling index at the European level. Nevertheless, when academic administrative positions are observed, it can be seen that there were 9 female rectors in Turkey in 2010, and 12 female rectors in 2012, out of a total of 173 universities, which corresponds to 7% of rectors in Turkey. (cf. EC 2013)

In addition to remarks from She Figures 2012 (EC 2013), when the statistics from the Council of Higher Education are investigated, it can be seen that the number of female students at the undergraduate level in Turkey – including newly enrolled students and Bachelor's graduates – has slightly increased between 2009 and 2012.

When the data at the master's degree level are observed, slight decreases at all three levels can be attested. In the case of PhD graduates, no important change can be observed. However, when the incoming Ph.D. students are observed, there is a decrease over the last three years. All these may not be interpreted in a negative way as the period is too short to make a clear judgment (2009 – 2012). What should be done is to follow all these developments very closely and design and implement measures to increase the representation of women at all levels of higher education.



In terms of gender equality policies in Turkey, there are many ongoing projects led by The Ministry of Family and Social Policies. It is important to highlight that the National Action Plan Gender Equality 2008-2013 has been prepared in 2008. It has been prepared under the framework of the Twinning Project Promoting Gender Equality, implemented by the General Directorate on the Status of Women and the Ministry of Social Affairs and Employment of the Netherlands with the financial assistance from the European Commission. Additionally, the Combating Domestic Violence against Violence National Action Plan (2012-2015) has also been recently prepared.

Moreover, the other agents that are working for the promotion of gender equality are universities and NGOs. There are 42 women's studies centers at universities in Turkey, out of 179 universities in total. There are several NGOs with a focus on women and gender studies and implementing projects for women's rights. If government, institutions and NGOs work together and improve cooperation, the empowerment of women will become much more successful.

## **2) APPOINTMENT/HIRING PROCESSES AT ITU**

In Turkey the higher education system works under the umbrella of a central authority which belongs to the state apparatus and is called Higher Education Council (CoHE). To open a new position at any level of the university requires the approval of CoHE. In the hiring process for an assistant professor, the jury members are appointed by the faculty council and the process is completed in the faculty approved by the Rectorate. In order to become associate professor one should get nominated in the CoHE process. Then, the person can apply for a position in the university to be appointed as an associate professor. At this stage, the jury members are defined by the executive board of the university. In the hiring process for full professors, the jury is defined by the executive board of the university. The hiring process for associate professorships and full professorships are completed by the executive board of the university and approved by CoHE.

## **3) SELECTION OF APPOINTMENT PROCESSES**

We tried to acquire the necessary information on hiring processes by writing a formal letter to the general secretary of our university. We were not, however, able to receive any responses to our inquiry. It was not possible to get information from the "human resources" unit without the permission of the general secretariat. Then, we decided to acquire the necessary information through our personal connections. The professors, who we asked for help, approached us with a positive manner and declared their willingness to cooperate with us. However, since the information we asked was considered highly confidential, we again had little chance to make progress. When we tried to obtain the necessary information we realized that it was impossible to ask questions to a professor on a specific appointment process that he/she was involved in as a candidate or as a jury member. Therefore we decided to direct the interview questions without specifying a hiring/promotion process,

and asked the professors from different departments to answer the questions with regard to their overall experiences.

**4) CONDUCTED INTERVIEWS**

As we were not able to select any specific hiring process we preferred to reach people from different departments and different levels to be able to make comparisons. Ultimately, we interviewed 2 male and 2 female professors who had served in promotion committees as jury members. We also interviewed 4 academics who recently experienced appointment procedures as candidates. In sum, the sample for this study is composed of 8 faculty members who hold different positions in STEM disciplines at Istanbul Technical University.

<b>Members of Selection Committees</b>		
	<b>Participant</b>	<b>Date</b>
1.	Female Professor , Molecular Biology and Genetics	October 2012
2.	Female Professor, Faculty of Naval Architecture and Ocean Engineering	April 2013
3.	Male Professor, Mechanical Engineering	April 2013
4.	Male Professor , Chemistry	April 2013
<b>Successful/ Unsuccessful Candidates</b>		
	<b>Participant</b>	<b>Date</b>
5.	Associate Professor, Female, Chemistry	April 2013
6.	Associate Professor, Female, Faculty of Architecture	May 2013
7.	Assistant Professor, Male, Mechanical Engineering	May 2013
8.	Lecturer, holding a PhD degree, Industrial Engineering	May 2013

## **UNIVERSITY OF LIMERICK, IRELAND (UL):**

### **1) NATIONAL CONTEXT**

The Equality Legislation in Ireland comprises the following Legal Acts: the Employment Equality Acts 1998 and 2004 and the Equal Status Acts 2000 to 2004. The Employment Equality Act 1998 came into operation in October 1999 and replaced the Anti-Discrimination (Pay) Act 1974 and the Employment Equality Act 1977. It has been amended by the Equality Act 2004. They are known together as the Employment Equality Acts 1998 and 2004 and cover the following aspects of employment: advertising, equal pay, access to employment, promotion or re-grading, dismissal, as well as other issues. The Employment Equality Acts 1998 and 2004 also promote equality, prohibit discrimination, prohibit sexual harassment and harassment, require appropriate measures for people with disabilities in relation to access, participation and training in employment. These kinds of discrimination are outlawed whether by an employer, an employment agency, a trades union, a professional body, a vocational training body or a newspaper advertising jobs. The Act gives protection to employees in both the public and private sector as well as applicants for employment and training. It allows an employer to put in place positive action measures to promote equal opportunities on gender grounds. It also allows positive action specifically geared towards the integration in employment of people over the age of 50, people with disabilities and members of the traveller community.

The Equal Status Act, 2000 has been amended by the Equality Act 2004. They are known together as the Equal Status Acts 2000 to 2004. The Equal Status Act is based on the principle that everyone has an equal right to participate in our society. People should not be denied access to services, facilities or amenities because of race, age, religion, disability or membership of a traveller community – everyone should be seen as being of equal worth and should be treated on merit and not on the basis of a prejudice or stereotype. The Equal Status Acts 2000-2004 provide protection against direct and indirect discrimination outside of employment on the same 9 grounds: age, gender, religion, race, sexual orientation, marital status, family status and membership to the Traveller community and promote equality, prohibit certain kinds of discrimination, prohibit sexual harassment, prohibit victimisation, require reasonable accommodation of people with disabilities, and allow a broad range of positive action measures.

The Acts apply to people who buy and sell a wide variety of goods, use or provide a wide range of services, obtain or dispose of accommodation, attend at or are in charge of educational establishments. The Equal Status Acts 2000-2004 are not just about people who encounter discrimination, the acts also set forth the obligations now imposed on the owners and operators of businesses which supply goods and services, who provide accommodation, the management of schools and educational establishments, and the boards of private registered clubs.

The Equality Act 2004 implements the provisions of the amended Gender Equal Treatment Framework, Framework Employment Directive and Race Directive. These Directives take precedence over Irish law which should be read and interpreted having regard to the provisions of the Directives. Finally, the Equality Act 2004 seeks to implement the EU Race Directive which prohibits discrimination on the grounds of racial or ethnic origin and takes precedence over Irish law.

The increase in the number of 'working mothers' is one of many dramatic social and cultural changes which occurred in recent decades in Irish society. Although the proportion of all women in the Irish labour force remained fairly stable for sixty years, being 32% in 1926 and 31% in 1986, the proportion of married women and more specifically mothers, changed significantly from the 1970s onwards. In 1971 only 8% of married women were in the labour force; in 1981 this had more than doubled to 17% and by 1991 it was 27% (Hilliard, 2007). It was 37% in 1996, however, by 2008, 69% of all married women aged between 25 and 64 were in the labour force (CSO, 2009a).

According to the EU, in 2011, the employment rate for women in Ireland was 85.7% for a woman with a husband or partner but no children. It fell to 51.5% for women whose youngest child was aged between 4-5 years (OECD 2011). OECD figures suggest that employment rates for women in Ireland with three children are as low as 45.2% (OECD 2012a). Labour Market Segregation remains a reality with 70% of manager, director and senior officials being men and 84% of caring, leisure and other services and almost 80% administrative and secretarial being women (NWCi 2013).

According to the She figures 2012 (EC 2013) women comprise 52% of those employed in knowledge-intensive activities, compared to an EU average of 43%. However only 23% of those knowledge-intensive activities take place in Business Industries in Ireland, compared to the EU average of 14%. There is no data available for women in grade A academic positions (2002-2010). Women graduating at PhD level in Ireland is 46%, compared to an EU average of 45%, while the number of women graduating in sciences is 12%, the number of men graduating in sciences is also 12%.

The gender pay gap also remains a reality. The gender pay gap is the difference between men's and women's pay based on the average difference in gross hourly earnings of all employees. The latest figures from the EU Commission show that the Gender Pay Gap in Ireland is 13.9% - in other words women in Ireland are paid almost 14% less than men. The gender pay gap exists even though women do better at school and university than men and is particularly evident in relation to women with children and for top income earners. Ireland has one of the lowest levels of public investment in childcare (OECD 2011). Consequently, childcare costs in Ireland are amongst the most expensive anywhere. Ireland's spending on maternity and parental leave is considerably lower than most other OECD countries at about 6% (OECD 2012c).

## **2) APPOINTMENT PROCESSES AT THE UNIVERSITY OF LIMERICK**

In the University of Limerick, there are six positions on the academic track, and three positions on the Research track. Appointments can be made at any of these levels, but most academic appointments are made at the level of Lecturer below the bar, after which the appointee applies to progress across the merit bar, and thereafter applies for promotion to higher levels. To capture these three different processes and to explore the perceptions of excellence applied in each process, three appointments were selected at the University of Limerick: a new hire for a tenure track position in Chemistry, a progression from Lecture below to Lecturer above the bar, and a promotion from Lecturer to Senior Lecturer.

## **3) SELECTION OF APPOINTMENT/HIRING PROCESSES AT UL**

Three processes were selected in University of Limerick which were recently completed: a selection of a new candidate, promotion from Lecturer to senior lecturer and progression from lecturer below to lecturer above the bar. Overall this is 2 promotion processes and 1 hiring process. Selecting successful candidates from internal promotion processes is as significant for perceptions of excellence as selecting candidates in open competitions. Promotions and hiring are conducted according to very different processes in UL.

The appointment in the context of the hiring process was in Chemistry and has been selected for analysis because there were 6 female and 14 male candidates for the position. Other competitions underway in the faculty of Science + Engineering had no female applicants.

### ***Progression Processes***

In the case of progressions, a committee is convened, which reviews the applicants according to a pre-determined set of criteria which differ according to the level of the promotion. The University review committee is convened by the Vice President Academic and Registrar, who also selects the external members of the committee.

- Criteria/Weightings are Scholarship/Research (40%), Teaching (40%) and Service (20%).
- Process involves written applications being assessed/selected by the 10 member University Review Committee, which includes internal and external assessors, and is chaired by the Vice President Academic and Registrar

### ***Promotion Processes***

**In the case of promotions,** Head of Department/Dean will be invited to review the candidate's written application and will verify in writing to the University Review Committee the accuracy of the application against the criteria.

- Criteria are Scholarship/Research, Teaching and Service.
- Weightings are 35%, 35% and 15% respectively, with a discretionary 15%
- Written applications are then assessed by the Faculty Promotions Committee, which is made up of academic staff and chaired by the Faculty Dean, who makes recommendations to the University Promotions Board. Each department nominates one member to sit on the Faculty Promotions Committee.

The University Promotions Board evaluates the applications and selects candidates for promotion. The Board has the option to interview candidates; however it is not normal practice to do so. The University Promotions Board includes internal and external assessors and is convened and chaired by the President.

### ***Hiring Process***

The hiring member of the selection committee (Head of Department, Dean, or Vice President Academic & Registrar) arranges a recruitment pack which contains the job description, advertisement, information for candidates, information for the selection board and proposed members of the selection board. Information for the selection board includes a draft grid assigning weightings to selection criteria.

The recruitment pack is authorised by all of the following, in sequence

- i. Head of Department – where the position is allocated to a specific department
- ii. Dean – where the position is allocated to a specific Faculty;
- iii. Finance Division
- iv. Vice President Academic & Registrar or his/her nominee;
- v. Director, HR

Vice President Academic & Registrar or his/her nominee, assisted by the HR Division, will be responsible for screening all applications to ensure that only candidates who meet the minimum stated qualifications are considered for shortlisting by the Selection Board. Some or all of the internal members of the selection board may be invited by VPAR and HR to participate in the screening process. All shortlisted candidates' written applications are assessed separately by members of the selection committee, and the committee makes recommendations regarding those it will interview. Candidates attend for interviews. In the case of Lecturer below the bar they will also make a presentation.

The selection committee (no more than 10) is determined by the hiring person or competition owner, usually the head of department, and is chaired by the most senior member in management terms. The President has the right to be a member of any Selection Board or to nominate an individual to a Selection Board. In practice, for Professorial appointments, the President is chair.

#### 4) CONDUCTED INTERVIEWS

We conducted interviews and focus groups with members of committees and with candidates. We developed different interview/focus group guidelines depending on which competition we were exploring, all guidelines attached (cf. appendices 1). All in all, 23 people have participated in data collection.

Hiring Process	Position	Date
Hire of Lecturer below the bar in Chemistry	Member of Selection Board	March 13
	Member of Selection Board	March 2013
	Successful Candidate	March 2013
	Unsuccessful Candidate	March 2013
Progression across the Merit Bar	Member of Selection Board	June 2013
	Member of Selection Board	June 2013
	Successful Candidate	June 2013
	Unsuccessful Candidate	May 2013
Promotion Lecturer to Senior Lecturer	Member of Selection Board	May 2013
	Successful Candidate	May 2013
	Unsuccessful Candidate	May 2013
Focus Group	H.R. Manager and H.R Officers	February 2013
Focus Group	Female Academics across faculty	February 2013
Interview	Senior Female Academic	May 2013

### RWTH AACHEN UNIVERSITY, GERMANY (RWTH):

#### 1) NATIONAL CONTEXT

Gender Equality Policy in Germany has grown in importance over the last years. This is mainly due to the discourses about the incipient demographic change and a resulting (possible) shortage in skilled workers. Thus the given pressure to take action is currently more integrated and transformed in family policies, referring to the increase of child care places and measures for an enhancement of the compatibility of family and profession. A female quota for boards or other leading positions has not been realised as yet.

The OECD stated that “in Germany young women have higher educational attainment than young men, but gender gaps in labour market outcomes persist”. With 68%, the proportion of employed women is very high, but many women, especially mothers, work part-time. At median earnings, the gender pay gap is the third largest with 22% across OECD countries; half of this pay gap is due to gender differences in working hours. Part-time employment also often stands in the way of career progression: gender pay gaps for employees over 40 years of age are three times as high as for younger employees. Shorter work histories, fewer working hours and lower earnings also contribute to relatively low pensions for women. The average pension payment to women is about half of what is paid to men. This "pension gap" is the largest in the OECD. (OECD 2012)

In all federal states of Germany there is a Federal States Equality Act (LGG). This law obliges all public facilities including universities to the equalisation of men and women as well as to an active advancement of women. The implementation of this law takes place in gender equality plans, in the appointment equal opportunity officers, and, in case of an underrepresentation, also in the commitment to privilege a female applicant opposed to a male applicant if the qualifications are equivalent. Beyond that, the General Equal Treatment Act (AGG) is meant to prevent any discrimination or disadvantage out of reasons of race, ethnicity, gender, religion, worldview, age, or sexual identity. Therefore, persons concerned are also protected of disadvantages in non-governmental facilities and can take legal actions if necessary.

Nevertheless, the increase of woman in leadership positions at Universities remains slow. Over the last decade the increase was about 10 percent at the professorship level (from 11.9% in 2002 to 19.9% in 2011<sup>[1]</sup>). The proportion of female academic staff on grade A was only 15% in comparison to 20% on EU-27 level in 2010, whereas the proportion of female PhD graduates was 44 % (EU-27: 46%). (EC 2013) However, scrutinizing the broad fields of science/mathematics/computing and engineering/manufacturing/construction, then the proportions of female PhD graduates were 38% and 15% respectively.

## **2) APPOINTMENT/HIRING PROCESSES AT RWTH**

Typically the following criteria are considered relevant for the assessment of scientific achievements in the context of selection processes in Germany, which consists of two selection steps (cf. Färber/Spangenberg 2008, p. 177). The first selection is relevant to get invited to an interview and to a lecture (shortlisting of candidates), the second one is to select from the list of invited candidates:

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<sup>[1]</sup> Cf. [http://www.gesis.org/cews/fileadmin/cews/www/statistiken/18\\_t.gif](http://www.gesis.org/cews/fileadmin/cews/www/statistiken/18_t.gif) [16.09.2013]



1. Selection step: Selection by quantifiable criteria such as number of publications (impact-factor), volume of external funds (reputation of external funds), teaching experience (yes/no), habilitation (post-doctoral lecturing qualification) (yes/no)

2. Selection step: Discussion about the quality of publications (articles in high-calibre journals; contribution to the knowledge base of the discipline), projects, lectures, cooperation/collaborations, supervision of young researchers, habilitation, teaching achievements

The formal appointment procedure for professorships at RWTH consists of ten steps. After the allocation of the position in the faculty and its advertisement, the first step begins with pre-selecting the candidates after the application deadline (first selection step). The selected candidates are invited to a lecture and an interview with the selection committee (2). Afterwards, three candidates are selected (3; second selection step), and external reviews of the written applications by these candidates are requested from two or three independent reviewers. (4) The reviewers suggest a ranking of the candidates (5). Then the appointment committee and afterwards the faculty council discuss this ranking and make a final ranking which is presented to the rectorate (6). At the end, the commission has to obtain approval from the rectorate (7). If they all agree to the list the dean starts negotiations with the candidate (7), and then the Chancellor negotiates with the candidate (8). Finally, the administration supervises the feasibility of the negotiation results (9). In the last phase of the process, the candidate accepts or declines the appointment offer (10).

The process governing the way an appointment procedure has to be conducted is determined through an official appointment regulation. In this regulation, criteria are listed for the evaluation of the applicants from which the selection committee can choose. However these criteria are not mandatory and can be amended: scientific qualification, pedagogical competence and qualification, competence to apply gender and diversity issues in the discipline in question, competence to give new impulses to research and teaching at RWTH Aachen, engagement in teaching and experience in developing curricula; management competence, and, in particular, human resource management, experiences in applying for funding, experience abroad, willingness and aptitude for interdisciplinary cooperation and assumption of responsibility within collaborative research projects, and, finally the degree to which the candidate meets these criteria. No weightings among the criteria are mandatory.

### **3) SELECTION OF APPOINTMENT PROCESSES**

At RWTH three appointment processes at the professorial level (A level) were chosen; the appointment of the three successful researchers took place in 2012. It was one appointment in mechanical engineering (6 female and 31 male applicants; 2 women and 8 men invited, three men on the selection list); an appointment in mathematics (9 female and 40 male applicants; 3 women and 3 men invited; women on the first position of the selection list, two men on the second and third

position) and an appointment in computer science (4 female and 34 male applicants; 3 women and 2 men invited; one male candidate ranked first on the selection list, while one male and one female candidate shared second place on the list).

The Academic Appointments Officer, who is a member of the university board, arranged the contact between the chairs of the appointment committees and the FESTA team. Afterward the chairs were contacted in order to schedule the interviews. The FESTA team made the following experiences: the chair of the appointment process for the mechanical engineering position agreed to a single interview; however refused to ask the other members of the appointment committee as well as the candidates if they were willing to conduct an interview. The chair argued that all members of the committee obliged themselves to maintain confidentiality. In the case of the appointment in mathematics the chair of the selection committee did not respond to our request – and also did not respond to a second request. Thus, only one interview with a successful candidate was conducted. However, in the case of computer science, there was great openness and willingness to support the FESTA project. Thus a focus group interview with members of the selection committee (4 persons) was conducted, as well as interviews with the successful and the unsuccessful candidates. Moreover, another interview was conducted with an emeritus professor whose successor was a member of the committee. In order to compensate for the missing interviews with other candidates and members of appointment committees, a focus group interview was conducted with four female professors who were appointed in the previous two years. Finally, another focus group interview was conducted with the equal opportunity officer and her two deputy officers as well as a retired deputy officer.

#### 4) CONDUCTED INTERVIEWS

Hiring Process	Position	Date
Mechanical Engineering	Male Professor (RWTH) – Chair of Commission	October 2012
Mathematics	Female Professor (RWTH) – Successful Applicant	April 2013
Computer Science	Male Professor (RWTH) – Chair of Commission	October 2012
	Male Professor (RWTH) – Member of Commission	October 2012
	Female Student (RWTH) – Member of Commission	October 2012
	Male Student (RWTH) – Member of Commission	October 2012
	Male Professor (RWTH) – Successful Applicant	November 2012
	Female Professor (other German University)- Unsuccessful Applicant	November 2012
	Male Professor (RWTH) – Emeritus, Senior Researcher	August 2012
<b>Focus Group Interview</b> Equal Opportunity Officer	Equal Opportunity Officer, two Deputy Officers and one retired Deputy Officer	February 2013
<b>Focus Group Interview</b> four Female Professors	recent appointed female professors(RWTH)	March 2013

### SOUTH-WEST UNIVERSITY “NEOFIT RILSKI”, BULGARIA (SWU)

#### 1) NATIONAL CONTEXT

Bulgaria is a post-communist country in times of transition. Until 1989 it used to follow the Soviet policies and models in most spheres including education and science embodied in the national laws and regulations. Since 1989 the country has shifted westwards and commenced radical changes. In 1999 Bulgaria was among the 29 founders of the Bologna process and in 2007 it became a member of the EU.

Equal rights and principles of non-discrimination are enshrined in the Bulgarian Constitution (1991). However, the Constitution does not explicitly provide specific regulations on gender equality. It only states that family duties and parenthood are based on equal rights and obligations. The *Family Code*

(1985, amended 1992) is also based on the principle of “equality of men and women” (Article 3). A few other legal guarantees for gender equality can be found in different national laws, among others, the Law of Higher Education. One of the most important laws in terms of gender equality is the Law on Protection against Discrimination (in force since January 2004). It introduces a system of sanctions and envisages the establishment of a Commission of 9 members as an independent body, which reports to the Parliament. In spite of this, Bulgaria has not adopted any specific gender equality legislation. The Bill on Equal Opportunities for Women and Men was elaborated in 2001 by the Ministry of Labour and Social Policy, however, the Parliament rejected it several times.

Since 2000 the policy of equal treatment of women and men is under the responsibility and competence of the Ministry of Labour and Social Policy. In 2003 the Consultative Commission for Equal Opportunities for Men and Women was established, with the purpose and obligations to develop annual National Plans for Employment Promotion. In 2004 within the Ministry a separate unit (Equal Opportunity for Women and Men) was opened in order to coordinate, implement and monitor gender policies. In November 2004 the National Council on Equality between Women and Men was transferred to the Council of Ministers. Its chairperson is the Minister of Labour and Social Policy. In 2005 the first National Action Plan for Gender Equality Promotion was designed and adopted by the Council of Ministers. The National Action Plan in 2005 supported Bulgaria’s accession process to the EU and included measures for gender mainstreaming. It has been introducing various specific measures for encouraging the participation of women in the labor market, and the reconciliation of work and family. In its 2006 issue it encompassed a wide range of measures related to state policy for the promotion of gender equality. In the same year the Government presented the Bill on Equal Opportunities for Women and Men which was not adopted by the Parliament. Nevertheless, some features of the Bill were enacted through the Amendments to the Protection against Discrimination Act. Since then the annual National Action Plans for the Promotion of Gender Equality introduced various measures. The newest Plan of 2013 prioritizes the higher participation of women in decision-making processes. In 2013 an inter-institutional working group was established by the Ministry of Labour and Social Policy.

The share of female researchers in 2009 was 48% (3<sup>rd</sup> place in EU, whose average was 33%). Glass Ceiling Index in 2004 was 1.73, and in 2010 decreased to 1.40. In the higher education sector, between 2002 and 2009, the proportion of female researchers in the Natural Sciences decreased from 43% to 42%; in Engineering and Technology, the proportion of female researchers increased from 22% to 31%. In 2009, in the Natural Sciences, the number of female and male researchers was 285 and 390, respectively, while in Engineering and Technology, the number was 629 and 1360, respectively. The proportion of women in grade A (Professor) academic positions in 2010 was 25.9%, in 2002 it was

17.8%. In 2010, the proportion of female heads of institutions in the higher education sector was 14.4%, while the EU average was 15.5%. (EC 2013)

The *Labor Code* (1986, amended 2001) prohibits all forms of discrimination, privileges, and limitations based on nationality, origin, gender and race. The amendment to the Code in 2001 introduced the principal of equal pay for women and men (Article 243). By the end of 2003 certain amendments to the Labor Code introduced definitions of indirect discrimination. Moreover, when advertising job vacancies employers do not have the right to set requirements relating to gender and age. In the State Insurance Code for the Obligatory Public Insurance (adopted 1999) the state public insurance is implemented based on the principles of obligatory and comprehensive insurance and equality of the insured persons. The same principal is valid in academia (higher education and research institutions) – equal pay for men and women on any level and position.

## **2) APPOINTMENT/HIRING PROCESSES AT SWU**

The first liberal Higher Education Act of 1995 enforced the three cycle system - Bachelor, Master and Doctorate. Meanwhile, the law regulating the appointments of scientists (the ***Academic Degrees and Titles Act***) remained effective from 1972 until 2010. It was quite rigid in setting up a uniform, hierarchical and centralized national system under control of the Council of Ministers. The new ***Act for the Promotion of Academic Staff in the Republic of Bulgaria*** (its full name) came into effect at the end of 2010, after intense political manoeuvring. It remodelled the system, making it fully decentralized, much simpler and quite liberal. It transferred the authority from the government to the governing bodies of the higher education and research institutions; but in practice notably on their heads (superior and/or inferior). Each institution has created its own rules and procedures for appointment and promotion so that comparisons between the same levels are at times difficult, sometimes impossible. This new system produced within just 2 years (2010-2012) a great number of new professors, associate professors, assistant professors, PhD and DcS holders. An illustration of this expansion is the number of newly appointed professors – 600 compared to the total number of professors in Bulgaria in 2010 – around 2 300). This new Act, respectively the new system, is highly contested since its coming into effect, and the debates in the academic community are escalating to such an extent that the new government (since May 2013) is already working on revising it.

It is important to note that one of the major peculiarities of the current system is its stress on promotion rather than on appointment. Appointment is primarily an issue at the start of a scientific career for young candidates. Once entered the system, a researcher obtains permanent contract (tenure track position) and usually retires at the same institution climbing the academic ladder. The current law makes a distinction between academic position and scientific degree. Academic positions are “assistant professor” (limited contract from 1 to 8 semesters); “chief assistant professor”

(permanent contract); “associate professor” (permanent contract); “professor” (permanent contract). Scientific degrees are: PhD (Doctor of Philosophy) and DcS (Doctor of Sciences).

All this has created a quite complicated environment in which diverse new rules and regulations coexist together with old uniform notions and attitudes. Very often it has resulted not only in very subjective and unjustified interpretations of rules and criteria in the assessment of research output but also in numerous conflicts. For this reason, most of the interviewees were referring either to the old or to the new system with a strong criticism and pointed to innumerable weaknesses of both.

*“In general, the promotion procedures are quite strange at the moment – they do not rest on the evaluation of „aggregate” output but on the evaluation of a certain weight of „single indicators” in different categories, which is merely an absurd approach! A researcher can write 20 wonderful research articles and at the same time has no teaching materials or work on accreditation and at the final count it turns that he/she has nothing. But 20 good research papers are not so easy to write. This evaluation only on qualitative criteria but not on aggregate qualitative and quantitative outcomes leads to strange results sometimes.” (Mark)*

### **3) SELECTION OF APPOINTMENT PROCESSES**

A total number of 18 interviews were held with researchers (10 female and 8 male) from two major departments of the South-West University – the Faculty of Natural Sciences and Mathematics (14) and the Technical College (4). Among the interviewees there were 2 professors, 11 associate professors and 5 chief assistant professors. 5 of the interviewees were selection committee members and/or promotion boards; 6 were successful applicants, and 7 were unsuccessful ones. All the interviewees were responsive, easily agreed to participate. Finally, they were very polite and engaged with the questions during the interview sessions.

#### 4) CONDUCTED INTERVIEWS

<b>Members of Selection Committee / Evaluation Board (Jury)</b>		
<b>No.</b>	<b>Academic Title and Degrees</b>	<b>Date</b>
1.	Male, Associate Professor, Dr.	July 2013
2.	Male, Associate Professor, Dr.	July 2013
3.	Female, Associate Professor, Dr.	July 2013
4.	Female, Associate Professor, Dr.	July 2013
5.	Male, Professor, DcS.	July 2013
<b>Successful Candidates</b>		
	<b>Academic Title and Degrees</b>	<b>Date</b>
1.	Male, Associate Professor, Dr.	July 2013
2.	Male, Associate Professor, Dr.	July 2013
3.	Female, Associate Professor, Dr.	July 2013
4.	Female, Dr.	July 2013
5.	Male, Associate Professor, Dr.	July 2013
6.	Female, Professor, Dr.	July 2013
<b>Unsuccessful Candidates</b>		
	<b>Academic Title and Degrees</b>	<b>Date</b>
1.	Male, Associate Professor, DcS	July 2013
2.	Female, Associate Professor, Dr.	July 2013
3.	Male, Associate Professor, Dr.	July 2013
4.	Female, Assistant Professor, Dr.	July 2013

5.	Female, Assistant Professor, Dr.	July 2013
6.	Female, Assistant Professor, Dr.	July 2013
7.	Female, Assistant Professor, Dr.	July 2013

### 3.2 METHODOLOGICAL DESIGN

The major aim of the survey was to explore various aspects of the researchers' perceptions of excellence as well as gender equality issues with regard to scientific achievements and career progression. Therefore, all interviews were carried out with a structured interview guide (see guideline in appendix 1) and all interviews (with some exceptions) were recorded and transcribed. There were two different questionnaires for members of committees and boards and for successful/unsuccessful applicants. The method that all partners used was problem-centred, in-depth qualitative interviews. Partly focus group discussions were carried out. All interviews were analysed with thematic analysis and derived from literature and put into the context of Bourdieu's field theory (cf. chapter 4). At SWU, the content of some interviews was subsequently crosschecked in a follow-up informal discussion with interviewees.



## 4. RESEARCH REVIEW AND THEORETICAL FRAME

### 4.1 RESEARCH REVIEW

In recent years a number of studies in Europe provided evidence that scientific excellence is complex and a contested construct (European Commission 2005, Zimmermann 2006, van den Brink et al. 2006, Beaufaÿs 2007; Brouns 2007, Grummel et. al. 2009b, Rees 2011, van den Brink/Benshop 2012 etc.). Quality cannot be measured in a direct way, therefore indicators such as publications, indices, bibliometrics and other metrics are used in order to measure excellence. They are representations of quality and depict a set of commonly used indicators in the scientific community. However, these criteria are not easy to evaluate and therefore they are not fully objective. Brouns (2007: 27) concludes that “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.” Thus, because excellence is rather “socially constructed,” one can suggest that such constructions are gendered.

Schacherl et al. (2007) consider science – in connection with Bourdieu – as a social field in which academic achievements are always objects of the social balance of power. Allegedly, science is characterized by the notion of a meritocratic elite whose selective moment is performance which is based on criteria that can be objectified. Definitions of excellence that are oriented towards top level research based on this belief and its established appraisal procedures. However, this sovereignty discourse masks social inequality (Beaufaÿs 2007, Grummell et al. 2009a, Husu/Koskinen 2010). Bourdieu (2011:93) argues that “whatever their position in the social space [is], women have in common the fact that they are separated from men by a negative symbolic co-efficient which, like skin colour for blacks, or any other sign of membership of a stigmatised group, negatively affects everything they are and do.” Thus a notable gap arises between conventional scientific assessing systems and equal opportunities (cf. Schacherl et al. 2007).

In the following we present findings from literature that analyse the criteria and contextual conditions that are relevant in the evaluation of scientific achievements.

## **FORMAL CRITERIA FOR EVALUATING SCIENTIFIC EXCELLENCE**

Husu and Koskinen (2010) define the following key arenas of excellence in technological and engineering research: research funding, scientific publishing, conferences, prizes, and patents. In their gender analyses of these key arenas they came to the conclusion that although these criteria seem to be gender-neutral, the top journal editorial members are mostly male and the ratio of women among awardees of Technology and Engineering is very small. Brouns/Van den Brink extend these named criteria to include economic cooperations, international cooperations, leadership skills; and management skills judged by the amount of external funds the candidate has attracted. (2006: 61 ff.)

Gender bias is possible in many ways. For example, topics or publication bodies, where women publish, are marginalized; or in the appointments committees the CVs of women and men are evaluated differently (Färber/Spangenberg 2008:179, 176). Finally, Zimmermann (2006) states that with regard to the weighting of the criteria professional reasoning is used to justify the fit of or non-fit of candidates. (p. 91)

Ledin et al. (2007) point out in their reflection of the findings of the EMBO reports that the reasons for women's lower publication rates can be found in the prevailing culture that ascribes women to traditional roles in the home. The effect is that young female researchers tend to move to suit their partners' careers, tend to work fewer hours than their partners, even at the PhD stage, and provide the smaller percentage of the family income. However, women also tend to receive less professional support than men: women more frequently report that their supervisors became less supportive and more critical as soon as the female young researchers have children, and women respondents feel that men have received more support from their supervisors. They conclude that the data of the EMBO reports suggests subtle differences in the average applications of men and women, which collectively combine to real effects that are reflected by lower success rates for women. In addition, there remains a pervasive culture of negative bias—whether conscious or unconscious—against women in academia, resulting in a lack of professional support and networking. Together these factors constitute a harmful mix that leads to women being less successful than men over the course of their careers.

Liedman (2006) stresses that the quantification of quality is facilitated by the evaluation systems which entitle certain points to activities such as publishing and that these evaluation systems cause problems for female researcher in particular, since networks and personal relations within academia are determining factors in publishing in prestigious journals.

As a consequence, Schacherl et al. (2007) see the urge to develop indicators which are not orientated towards the academic output alone, but measure equally the performance in other scientific activities such as teaching, committee participation, management, administration, transfer of knowledge, public relations, external advice/expertise etc. (p. 57).

## **FITTING OF PERSONS IN THE ACADEMIC FIELD**

In a study on promotion practices in the scientific field Beaufaÿs (2007) has worked out that young researchers who share the unspoken rules in science such as being always available and having no caring duties etc. are rather promoted than young researcher who behave in a way that is not conform with these rules. Beaufaÿs stresses that from a habitual concordance between the “gate keeper” and the young scientist a culture of confidence derives that lead to the promotion practice – independent from the actual achievements of the young researchers.

The decisive feature here is the so called “illusio” in the academic field (cf. chapter 4.2) which means a “practical sense” for the rules and behaviours in the scientific field and its agreement on these ones. This practical sense is to be regarded as associated by the other actors. Essential exclusion mechanisms are located in this “practical sense”, which makes women become rarer teammates in the academic field (Beaufaÿs 2007: 150). According to Färber and Spangenberg (2008), these mechanisms of disadvantage are found in the lesser support of publications, lectures and invitations, equipment and resources during appeal negotiations for women (p. 174). The result is that women have a worse initial situation for getting external funds (cf. Ledin et al. 2007).

Further, Zimmermann (2006:89) points out that the right of faculties to appoint professors in fields where the faculty sees a need the danger is given that homosociability and cooptation come into practice and refer to the meaning of the appropriate fit of persons. The meaning of such fit is applied to the candidates on professorships and based on trust in terms of the “illusio”. In this context she stresses the meaning of so called “bridgepersons” who possess the power of definition of standards and profiles due to their affiliation to an organization (see p. 89).

Finally Hartmann (2002) demonstrated that it is not the duration of the studies, visits abroad or change of universities which are the central factors of a successful university career, but it is a real advantage for women who want to become professors, if they take a leading position at the place where their professional career began. Only that way the building of a functional social network is possible, which proves to be career enhancing. (quoted in Schacherl et al. 2007: 53)

## **FITTING OF A PERSON: ACADEMIC REPUTATION, SOCIAL RECOGNITION AND SOFT SKILLS (ATTRIBUTING AND RECOGNITION PRACTICES)**

Schacherl et al. (2007) state “the kinds of capitals that matters most in the scientific field are those of reputation, the recognition by colleagues” (p. 52). This reputation is so important because the recognition of an academic performance is bound to the social recognition of a person who has produced this performance. The *illusio* of professors and reviewers helps the academic performance to

be recognized in its relevance and in its quality or not. The attribution patterns, which affect the selection, are often of such a self-evident nature that they are not questioned further (ibid.).

In that way, not only the quality of the academic performance but also the “academic personality” can be an excellence criterion. (Zimmermann 2006: 91) Therefore it can be said that “excellence” is the result of a social construction, which is never independent from social features and for that reason also from the gender of the actors.” (Beaufaÿs 2007:162) The “academic personality” depicts a scientist who has internalised “the academic way of life” (Mittelstraß) which means, among other things, a general availability for doing science that is independent from time demands. The “best,” which the potentially academic sponsors and mentors are looking for, are not only recognized by the scientific achievement itself, but also by the way scientists embody it. (Beaufaÿs 207:152) Gummell et al. (2009) provide further evidence for this specific criterion, which they refer to as fitting with the ‘*local logic*’ of the institution in the context of the new managerialism in education. The study highlights the tensions that can exist for selection board assessors as they try to balance increasing performativity and new managerialist demands with the traditional ethical and moral dimensions of educational leadership. The key concepts of ‘local logics’ and ‘homosociability’ frame the analysis as it is shown how assessors often select ‘safe’ candidates according to familiar qualities. This normalization is problematic when educational leadership is faced with intense organizational and socio-cultural change. It is also problematic in gender terms, especially in higher education, where the prevailing leadership model is a masculine one. Differences between education sectors are evident, with the higher education sectors being more formalized in their application processes, highlighting their own local logics of strategic and professional management criteria.

Academic performance has a social dimension: “Performances are not just ‘generated’ by persons who are equipped with a “potential” for it. More than that they evolve, ..., in social processes of attribution and recognition. Also academic performance is not free from power relations and therefore also not – like often assumed – an objective basis for a “fair contest” for rare leading positions in this social field of action.” (Beaufaÿs 2007:147) Furthermore, it can be concluded:

1. Performance does not exist independently from actors.
2. Performance is not a “category of action”, more “category of attribution”.
3. Performance is part of a concrete practice of researching; therefore excellent academics/researchers are created socially.

Derived from this, Beaufaÿs defines performance as “not an action generated by a person but as an attributing practice coming from social processes and connected to certain persons (cf. Mialet 1999).” (2007:148 f.)

The authors Schacherl et al. (2007) relate in this context to the “Matthew Effect” (Merton) which gives evidence that recognition is not defined by performance alone, but also by the position of the scientists in the scientific system (cf. p. 52).

### **FITTING WITHIN THE INSTITUTE/ORGANIZATION (INCLUDING THE CARE CEILING)**

All authors point to the ability of fitting as constructing an element of academic excellence, quality and performance. It is not searching for the best scientist (at least not exclusively), but for the best fitting supplement to the existing (social) scientific establishment. Zimmermann (2006) states that in the negotiation process the criterion of fitting is handled dynamically, it is modified to the situation and recoded according to demand and therefore equipped with “objective validity”. The process of “objectification” makes it possible to understand the socially constructed concept of fitting as a criterion of excellence which guarantees the selection of the best.

The criteria of the ability to fit in are composed of a combination of elements in which special professional and personal competences as well as collective interests and requirements are important, up to the point where “professorial” is defined by an appointment committee (cf. Zimmermann 2007, Färber/Spangenberg 2008). Thereby the following recruiting patterns are observable: “Decision makers search for the offspring which resembles them in behaviour and attitude, which is compared most likely by the same or similar social rank, same direction with regard to contents or the same gender.” (Schacherl et al. 2007:53).

In this way it becomes clear that people who are primary carers cannot perform well in realizing the ability of fitting in science. A number of studies stress that marital status and motherhood affect women researchers’ academic career negatively. (cf. Clark/Hill 2010, Grummel et al. 2009a, EC 2005) Grummel et al. (2009a) highlighting this issue in relation to the new culture of managerialism in the Irish higher education system: While there has always been a profound indifference to the affective domain in formal education, given its Cartesian allegiance to the development of the rational autonomous subject, this indifference to the emotional subject is intensifying with the glorification of performativity. As higher education is especially subject to performance measurement and rankings, this study of top-level management in Irish higher education shows that those who hold senior management posts are subjected increasingly to disciplinary rationalities that largely preclude being a primary carer. The definition of senior managerial posts as care-less positions, in terms of primary care responsibilities, advantages those who are care-free and these are disproportionately men in societies where the moral imperative to do primary care work applies mainly to women. The data suggest that understanding how the care ceiling operates is crucial for understanding why women do not occupy senior managerial positions within new managerial regimes in higher education.

Finally, Brink et al. (2006) and also Bagues/Zinovyeva (2012) provide evidence that there is a correlation between the number of women on the selection committee and the share of female applicants who are successful in the selection procedure.

## SUMMARY

The relevant themes that can be derived from literature are listed below and will be the guiding themes for analysing the perceptions of excellence held by committee members and candidates.

1. Scientific Achievements: Are the criteria for judging scientific achievements similar in all partner countries?
2. Fitting of the person as a member of the scientific community: Does a person believe science is a way of life? How is this attributed to people and recognized by others? What does (in)appropriate fitting means for promotion?
3. Fitting of the person with a specific social background in relation to the local logics in the institution: Is the person 'safe', how is this socially recognized? Fitting in with the organization local logic in connection to care responsibilities of persons: How works the care ceiling in science? Does the care ceiling preclude 'fit' in each partner's institution?
4. Acknowledgement in the scientific community and academic reputation: How is recognition and attribution of excellent scientific achievements socially constructed and made relevant by scientists? What are the practices in each partner's institution?
5. Innovation, creativity, 'something more', soft skills: Are soft skills and which one part of criteria for judging excellence?

The literature shows that scientific excellence is deeply connected with social aspects of the scientists. For this reason, it allows gender bias and discrimination. Excellent scientists are created through specific mechanisms of production and selection that are inherent in the scientific field. They are at the same time included in schemata of recognition and judgments, dicta of actions, sets of belief, myth production and reality constructions of the actors in the scientific field. (cf. Beaufays 2003: 239). Therefore in the next chapter, the themes derived from literature shall be reflected against the background of Bourdieu's conception of different kinds of *capitals* that can be applied in the field of science.

## 4.2 THEORETICAL FRAME

For the purpose of locating the findings of the literature review and later on the empirical findings in the context of the excellence framework, we apply Bourdieu's concept of social field theory, habitus

and types of capital in the institutional context of academia.<sup>1</sup> The social practices and its logic as well as actors as constructors of reality are in the centre of analysis in these concepts. In the following we sketch Bourdieu's theory with regard to the scientific field and continue to link this theoretical frame with the 5 themes that we have identified in the literature review.

The professionalization of a certain societal practice is constitutive of a social field like the scientific field. A field can be any structure of social relations; it is a site of struggle for positions within that field and is constituted by the conflict created when individuals or groups endeavour to establish what comprises valuable and legitimate capital within that space. Each field has a profile of its own, depending on the proportionate importance within it of each of the forms of capital. Bourdieu conceives of capital as differentiated into four forms of capital. Economic capital can be immediately and directly converted into money. Social capital refers to social connections with prominent or influential people. Cultural capital comprises cultural knowledge or educational credentials, and symbolic capital means social honour and prestige. (Bourdieu, 1986) The position of an actor in a particular social field depends on the volume and form of capital that the actor possesses. Finally, disparate forms of capital can be at times converted into other forms; however, they are not automatically convertible.

All fields, all spaces within society are contested, and actors' positions within them have to be fought for continually. "Organisations must be understood as fields with their own stakes to be struggled for." (Bourdieu and Wacquant, 1996:102-104). The power to arbitrarily determine what constitutes legitimate cultural capital within a specific field is derived from symbolic capital; in the case of science, 'scientific excellence' is valuable and legitimate capital. Bourdieu's views on various kinds of capital and resulting positions in the field are also related to gender. He points out that "whatever their position in the social space, women have in common the fact that they are separated from men by a negative symbolic co-efficient which, like skin colour for blacks, or any other sign of membership of a stigmatised group, negatively affects everything they are and do." (Bourdieu, 2001:93)

In the scientific field which Bourdieu considers as a relatively autonomous field three types of capital are of special importance: symbolic, social and cultural capital. The economic capital has only marginal importance in the field. At the same time this is a relevant aspect of the field's logic and its social laws and reason for its autonomy against external constraints. It is especially the anti-economic economy

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<sup>1</sup> For a more comprehensive presentation of Bourdieu's theory see Bourdieu, Pierre (1998): *Vom Gebrauch der Wissenschaft. Für eine klinische Soziologie des wissenschaftlichen Feldes*. UKV: Konstanz. [Over the use of science. For a clinical sociology of the scientific field]

and the regulated competition in the field that generates the specific kind of *illusio*<sup>2</sup>. This means, that the scientific interest is an interest that seems to be altruistic and free of charge in relation to the common interests of the everyday life and especially in relation to the interests of the economic field. It is just this altruism that provides benefit as symbolic capital. However, this hagiographic picture of science becomes brittle in the everyday life of science and the competitions taking place. There are practices like intellectual theft and struggle for initial discovery and of course many less drastic practices because scientists are driven to be the first, to be the best, to be the most excellent scientists. (Bourdieu, 1998a:27-28) The scientific struggle is a struggle for the “objective reality” that is acknowledged accordingly through the participating scientists. Thus, these “objective realities” are social constructions and *representations* that make a point of view visible and valid. (ibid:29) Nevertheless, the scientific field also knows power relations like the economic field: phenomena of the concentration of capital and power, monopolies, social power relations that contains the power of control over production and reproduction means. (ibid:30) It follows that the scientific field consists of two kinds of power which correlates with two kinds of scientific capital. On the one hand it is the institutionalised power that is connected with the filling of distinctive positions in academia, with the leadership of research institutions, the membership in councils/committees, with reviewer activities and with the resultant granted power over the scientific production means (contracts, money, posts etc.) and the reproduction means (the power to decide over careers or to “make” careers). On the other hand a specific power, a personal “Prestige” is based only weakly on institutionalized acknowledgment but through the totality of all like-minded people and their most prestigious among them – so to say the “invisible councils” of scholars who are connected through relationships of mutual appreciation (ibid:31).

These two types of scientific capital follow different laws of accumulation. The “pure” scientific capital is accumulated especially through renowned contribution for progress in the sciences, through inventions or discoveries. Here, publications in highly selective and prestigious bodies are the most important indicator. The institutional scientific capital is accumulated through political strategies that have in common that they require *time*: memberships in councils/committees, in examination boards and award committees, participation in colloquia, ceremonies, meetings etc. Both types of capital differ with regard to its transmission. The “pure” scientific capital has something volatile and indefinite because it is only weakly objectified, it is connected with the person and her/his personal talent and charisma. Only the formalized part of the scientific expertise can be transferred through a long, slow and time consuming development of the successor and a permanent cooperation. Moreover, the

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<sup>2</sup> *Illusio* is derived from the Latin word *ludus* (game). The *illusio* means the bet of actors, the investment in the “game” of a field, that have certain, changeable rules. At the same time, the *illusio* is the belief that the bet is worth to be made. (cf. Beaufaÿs 2007:163)



prestigious researcher can consecrate oneself to young researchers by helping them to raise their acknowledgement, to publish their work, to sign jointly (e.g. proposals), to recommend them for awards and prizes etc. In contrast, the institutionalized capital follows the same rules of transmission like every other kind of bureaucratic capital even if advertisements have to be made. Bourdieu's assessment of bureaucratic competitions is that advertised job descriptions are adapted to the favoured candidate. Although both transmission procedures differ, they have the principle of cooptation in common. (ibid:32-33)

Having Bourdieu's framework and the specific rules of the scientific field in mind we apply them to the five themes that we have derived from literature in the following chapter.

## 5. EMPIRICAL FINDINGS

The analyses are structured along the five themes that were derived from literature (cf. chapter 4.1). Country comparisons illustrate similarities between the countries as well as national logics and peculiarities. The overall goal of the five country thematic analyses was to understand how the meaning of 'excellence in research' is construed in selection procedures for professorships or senior scientific posts and to determine the extent to which gender bias exists in perceptions of research excellent.

### 5.1 SCIENTIFIC ACHIEVEMENTS AND QUALIFICATIONS

According to Bourdieu's framework (Bourdieu 1977, 1984; Bourdieu and Passeron 1977), scientific achievements and qualifications are embodied cultural capital, because it concerns forms of knowledge, skills, education and advantages that a person has which gives them higher status in society. Cultural capital can be institutionalised and is expressed in terms of certificates, diplomas, examinations, prizes; but it is embodied cultural capital because the achievements are embodied in the individual, rather than in abstract certificates or awards. In the context of the scientific field, diplomas are the entrance card into a science career and a precondition to produce scientific achievements. These achievements represent the "pure" scientific capital. However, in the evaluation of scientific achievements are included evaluation schemata that are not located on the level of "objective criteria" but are result of social constructions that are not independent from social features and thus not independent from the gender belonging of an actor. Exploring different valuations of this embodied cultural and scientific capital could be considered a *symbolic violence*<sup>3</sup> done to women, when their achievements are valued in general as less promising than those of the male scientists.

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<sup>3</sup> Symbolic violence denotes more than a form of violence operating symbolically and involves misrecognition of actions. Symbolic violence is perpetrated by both the dominator and dominated

### **BRUNO KESSLER FOUNDATION, ITALY (FBK):**

The interviews have revealed a difference with regard to the evaluation of scientific excellence between the candidates and the commissioners. All attribute a high value to publications, to scientific indices, to presentations of papers at international conferences. However, while for the committee members these elements are important for excellence but not distinctive; for the candidates objectively measurable criteria are those that should be valued as most important in selections.

*“Excellence is not a univocal concept. Scientific excellence is necessary but not sufficient. There are institutionalized standards for scientific excellence (publications, patents, key players etc.), but for the ‘ability to create value’, which is really a sign of excellence, there are no standards. Either you are in a ‘league of your own’ or you’re not.” (Committee member, head of research department, male)*

Measurable and quantifiable indicators (like number of peer reviewed papers etc.) are considered important for the evaluation, but most of the committee members maintained that those indicators should merely be the starting point for the evaluation of the ‘real worth’ of a candidate:

*“Of course, measurable parameters must not be denigrated and neglected, but they are to be taken with a grain of salt. When you try to measure the scientific quality of a candidate you only get that far. It is the ‘unique contribution’ that the person makes what should really be called ‘excellence’. When I have to judge a candidate I first consider the measurable parameters, but then, in order to achieve a reasonable judgment, I have to add subjective parameters to my considerations.” (Committee member, head of research department, male)*

Compared to the men, the women that were interviewed put a stronger emphasis on what is objectively measurable. This might be explained by the fact that women in research typically have a stronger need for “objective” recognition in order to compete with their male colleagues:

*“The excellence of a researcher is autonomy in the research of sources, astute intuition with regard to the potential of given lines of research; utmost seriousness in studying the sources and a strong will not to bypass any problem; a will to know and intellectual curiosity. However, scientific indices are fundamental. If someone doesn’t have an index and is never quoted or cited by others then, as far as I am concerned, he gets excluded right at the outset of a selection!” (Committee member, university professor of IT, female)*

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subconsciously through the use of e.g. classification systems. It operates on the level of the self-evidence and the everyday occurrence. (cf. Moebius/Wetterer 2011)

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The candidates, interviewed by the committee members who have just been quoted, maintained that the evaluation parameters during their selection interviews were actually less related to their actual scientific capacities than to other skills: for example to skills in research management, fund-raising and networking etc.:

*“A researcher should be evaluated in the first place for the relevance of his publications, his ability to create networks with other research centres. Management skills should come second. Today, however, success in finding and raising funds is considered much more important, and sometimes it is actually considered more important than scientific capacities. During the selection interview the committee did not so much consider my education and my technical/scientific achievements, but rather my attitude towards research, my ability to raise funding and to relate with European partners, and my personal skills and interests.” (Candidate, male)*

#### **ISTANBUL TECHNICAL UNIVERSITY, TURKEY (ITU):**

When the professors were asked about their definitions of scientific excellence, their answers included references to the concepts of scientific achievement and qualifications. Both senior and junior researchers emphasize the significance of scientific success. They also have distinct ideas concerning the criteria for evaluating scientific achievements. Interviewees do not make clear-cut distinctions between the significance of contributions to science and of personal properties necessary for being a top-level scientist.

“Publishing” is one of the most frequently mentioned topics with regard to scientific achievement. According to Husu and Koskinen (2010), “publishing” as a category is listed as one of the five arenas of scientific excellence. The narrations of our interviewees occasionally emphasize the significant position that publishing occupies in their respective careers. According to Poyraz (committee member, male, professor), the number of publications is mainly important because it helps to avoid nepotism. Another of our interviewees, Ateş on the other hand makes an emphasis on teaching activities and personal properties:

*“It’s not that important in which journal your papers have been published. What is important is how you perceive the problems and how you are teaching the ways of perception to younger researchers. So, a researcher needs to share his or her knowledge with others. A researcher needs a strong personality.” (Committee member, male, professor)*

In other words, teaching performance and personal attributes intersect with each other and compose a much more valuable criterion for him.

Although Husu and Koskinen (2010) refer to scientific excellence as a “social construction” rather than a “universal fact”, our interviewee, Irmak (committee member, female, professor), exhibits an understanding, compatible with Clark and Hill’s definition of scientific achievements, which is to produce publications “in high-caliber journals and contributing to the knowledge base of the discipline” (cf. Clark and Hill 2010). Irmak attaches universalism to the identity of the researcher, which is beyond gendered perceptions of the academia.

Rüzgar (candidate, male, assistant professor) has also recent experiences of hiring processes as a candidate. He offered a striking analysis regarding his university’s pressures on him to publish. He remarks that the opportunity to publish depends on one’s research area. He tells that there are such research areas where one can easily produce publications but there are also other research areas where it is very difficult to publish. In such a case the criteria, which evaluates the number of publications, does not sound reasonable. He was complaining about the jury members, who do not consider the quality of the publications but only look at the numbers. According to him, “the pressure on young researchers to publish more is a substantial burden”.

He also criticizes the regulation that obligates candidates to produce at least one publication which focuses on a topic which is different from the candidate’s PhD dissertation topic:

*“Why do I need to spend hours for a work which I am not interested in? I have recently published an article, which is not related to topics in my doctoral studies to be able to apply for an associate professorship position. ... There is not such a regulation in European or American Universities. This is a loss for Turkey. The criterion needs a serious change”.*

Yaprak, who has recently completed her PhD studies and is now waiting for a vacant position to be promoted to the assistant professorship level, notices the same complexity with the criteria that evaluates the number of publications:

*“A published article does not mean that it is a valuable piece of work. There are many dynamics in the publishing process. For instance, in our area it is difficult to publish in a Turkish journal but it is much easier to publish in international journals. How will the jury members evaluate all such factors?”(Candidate, female, lecturer)*

None of the interviewees note gender differences with regard to publications. The criteria that evaluate the number of publications in hiring or promotion processes are mostly questioned and their usefulness and objectivity are criticized.

Other than the issue of publications, international research experience is highlighted by two professors who have been serving in hiring committees. According to ITU regulations, researchers are expected to

conduct at least 6 months of post-doctoral research in a foreign university, before they can be considered for any vacant position of assistant professorship. In this regard, Yağmur states that “educational background is important, but international networks are much more important. We do not prefer candidates who have not experienced study abroad.” The professor notes that they do not receive applications from female researchers who were not able to go abroad for post-doctoral research due to family issues such as childcare. Therefore, she claims that academic mobility as a criterion for hiring is met evenly for both male and female applicants.

The status of professorship provides one with a symbolic value, which can also be converted into economic capital. The point however is that the interviewees have differing opinions on how to gain that capital. While Yağmur draws attention to the fact that it is difficult for women to acquire capital, others relate it to the fact that there are numerous ways to earn professional capital, either by studying abroad, publishing articles, having a strong personality, or even having a good command of English. It becomes complicated when the jury members responsible for the qualification decisions meet the candidates and decide on which form of professional capital the determining factor in the qualification process will be. The narratives show that there is no clear answer as yet.

### **UNIVERSITY OF LIMERICK, IRELAND (UL)**

Analysis of interviews and focus groups demonstrated a disconnect between the ‘formal’ criteria the university considers indicative of academic/research excellence, and the experience of candidates in selection processes. In a selection competition, for a lecturer role, a candidate reported that the selection board did not look for such evidence in evaluating candidates:

*Well there was nothing there that would have represented excellence as such in my opinion... I think the panel that is selected for the interview process is very important; I think certain people’s perceptions of excellence are probably more accurate than others. And I think that certain people on the interview panel probably wouldn’t know excellence if it hit them in the face. (Eric, Researcher).*

Following a recent promotion process, 75% of men and 25% of women were successful, from almost equal numbers of male and female applicants.

*I don’t know if there’s a gender issue ... maybe it just so happened that the men were better. I don’t know, but I know with me if I compare my CV to other people who did progress, I don’t feel they were any better than me. And they probably agree as well; well one person in particular said it. (Jennifer, Academic)*

Jennifer suggests that there may be a gender issue in the outcome of the recent process, especially as one of her male colleagues agreed that the successful candidates were not 'better' than she is, when four candidates compared their scores on the three criteria of research, teaching and service. It was found that Jennifer 'had been marked down in teaching, and [other] people had been marked up' (Jennifer, academic).

However in a focus group discussion, in relation to the same progression competition, it was observed that women take time out to have children which prevents their promotion.

*I think it's more that unfortunately for the women, because of being women, young academics having families, they just, when it comes to the process, they have missed out. I don't think there's a bias that they would prefer a female or a male in the role, I don't think there's a direct bias there, I just think there isn't. They're not measuring up when it comes to the actual competition (Holly, Human Resources).*

That a HR professional would accept without question that women are 'Not measuring up' because of maternity, suggests the hegemony of the discourse that women are the problem.

### **RWTH AACHEN UNIVERSITY, GERMANY (RWTH)**

All in all, there is agreement among the interviewed members of the selection committees that the selection process for appointing professors works well. Nevertheless, they are of the opinion that there has to be some flexibility with regard to the professional direction of the professorship, in order to appoint "the best", which is necessary for the reputation of the department. They also agree on the decisive criteria that help determine the scientific 'excellence' of researchers: publications in "top-journals", key notes on "top-level conferences", international visibility. In addition, the achievements are judged against the age of the researcher in order to estimate the time it took to attain the achievements. A further important criterion is external funding in order to be successful in the selection process, although this criterion is seen critical by most of the researchers.

*"I think it is necessary that you have proper publications, but what is really great if you reel in some external funds worth some millions. And this word, 'to reel in,' I chose it on purpose because I have the feeling that is how the university board sees it: The more money you spend, the better is the quality of research that you do. And this doesn't make sense. [...] I myself have heard a comment from one of our vice presidents of the University [not RWTH] in a commission – he said: "What? There is a junior professor here and he did not gain any external funds until now? How did he get this position?" I think this was dreadful, because I think it depends on the scientific area whether it is better to do deep research alone in the first years or if it is relevant to get external funding right away. But I see tendencies that university boards really want*

*external funds and that they try to lead the commission in this direction.” (female professor, candidate, Computer Science)*

Furthermore, of course, selection committees have to follow the principle of selection on a basis of merit; however, there are at least two difficulties connected with that principle:

The judgment of scientific achievements is always connected with some kind of relativity – “there are no two qualifications that are fully equal” (male professor, mechanical engineering) and there is no complete transparency possible in judging achievements. Thus, the personality (“sympathy”) of the researcher comes into play. (cf. 5.3)

It seems that in our data material there is a generation gap between women regarding how they judge the situation of gender equality in science. The older female professor (around 50 years old) assumes that being a woman is a “negative” capital in society in general, and especially in science which refers to the issue of symbolic violence; however in her case, it is obvious that she is conscious about the violence that was exercised against her. She has experienced situations in her career where she was not evaluated in a fair manner in comparison to men.

*“Of course there is the danger that a woman is evaluated more critically just because of the social discrepancy, that she is given a less favourable assessment. That happened also to me a couple of times for sure. This one time, I was on a list in second place. My competitor had about eight publications and I had 215 – or citations or something – it was a tremendous difference. Also regarding external funding I was significantly stronger and he was also six years older than me and had second-chance education – I don’t want to say anything against it, but having been funded through the German National Academic Foundation and passing everything with distinction is a completely different story. But despite all that, I was listed in second place.” (female professor, Engineering)*

The younger female professor (around 40 years old) has not experienced any discrimination in science. However, she has participated in programs that support female scientists. In her opinion there is an advantage for women in SET subjects at time due to the political intention of fostering women in science and the visibility of women in male dominated academic disciplines.

*“I think that the main criterion is the publication output. How good are the scientific results that I got? At which conference did I get them? In which journals did I publish the full text? This is what I have experienced, that the evaluation is largely based on these factors; how good the results of the applicants are judged to be. And I think there it is no matter whether the applicant is a man or a woman. Especially in the computer science department I did not have the impression that there are disadvantages for women. On the contrary, it has the advantage*

*that I can be sure that the commission will closely look at my application. Normally there are about five women that apply if you are lucky, and about fifty men. The applications of the women will be viewed in detail, maybe also the publications. The applications by the male applicants will partially be rejected on rather superficial grounds. I think this is a great advantage you have as a woman; also that the commissions are explicitly asked to invite women. I guess this also has the advantage that they think more about which of the women they would like to talk to in person, and to get invited to such an interview is more an advantage than a disadvantage. Even if you get invited as a 'disguised quota woman' you still get the chance to make a good impression. And if a commission works properly, like the commissions I have been a part of so far, then a woman that was only invited as an also-ran can get into the appraisal and if the referees say that the woman is good, she can also come in at first place." (female professor, Computer Science, candidate)*

### **SOUTH-WEST UNIVERSITY "NEOFIT RILSKI", BULGARIA (SWU)**

The perceptions of the interviewees about research excellence and scientific achievements are highly diverse. Some of them are quite general with a very high degree of uncertainty:

*"I have never come across an exact definition, a scientific one, of this term. Maybe the Nobel Prize ... but what happens then?! ... How many Nobel Prize winners are there?!!" (Chief Assist. Prof. Dr., unsuccessful female candidate)*

*"For me the term 'excellent research achievement' says a lot, but what bothers me is the first word – 'excellent' – since it's very heavy word." (Assoc. Prof. Dr., unsuccessful male candidate)*

Other opinions are very concrete and list different qualities which constitute the "excellence" in science. The most frequently mentioned among them are: publications, patents, citations, impact factor, participation in research projects, prizes, papers presented at conferences, research grants obtained; projects lead; establishment of own research school or field, innovation, creativeness, etc. Some of the respondents try to make their own definitions about an excellent achievement and for an excellent researcher:

*"An innovative outcome published in a refereed journal or presented in an international scientific forum." (Dr., successful female candidate)*

*"In order to qualify as a good professor you should have left some kind of a mark in your research area." (Prof. DcS, member of selection committee, male)*

*"Those who have publications in national and international refereed journals, who work in national and international projects, whose research outcomes are utilized in real production, in*



*the country's industry. These are people who do not only have the qualifications of an excellent researcher, but also are good in applying their results into practice, and they also possess personal qualities such as ambition, systematic efforts, loyalty to their university and faculty.” (Assoc. Prof. Dr. Eng., successful male candidate)*

One of the most important (and most frequently mentioned) dimensions of the concept of excellence appeared to be the “applicable nature” of the research results, i.e. their real and practical value:

*“My answer could name various features but in short, I could say that excellent research results are those which can be utilized both in theory and practice.” (Prof. DcS, chairman of selection committee; member of evaluation boards, male)*

*“I think that the best researchers are those whose results have scientific and applied implications, i.e. they prove their applicability in practice. Maybe the nature of our work in the Natural Sciences is of a kind that we are expected to produce something applicable out of our research.” (Assoc. Prof. Dr. Eng., member of selection committee; member of evaluation boards, female)*

*“Research results of high quality, applicable in practice and in life and thus different from those scientific results which have rather a pedagogical or methodological value. With the term ‘excellent research achievements’ I refer to the scientific results mostly of the ‘serious’ sciences, which are: Mathematics, Physics, Mechanics, Mechanical Engineering.” (Chief Assist. Prof. Dr. Eng., unsuccessful female candidate)*

In terms of appointment and promotion aspects of scientific careers the crucial topic turned out to be evaluation. Three major issues appeared to be of great concern to most (if not all) of the interviewees: what, who and how research achievements are being evaluated. In this respect, according to some researchers’ opinions, scientific excellence depends on the assessment of the selection committee and/or the evaluation board (jury) against given criteria:

*“In my view, there is neither a precisely defined term nor a scientifically grounded answer to what ‘excellent research achievement’ actually means. That’s why I think that, at this stage, the evaluation board decides on the excellence of one or another research outcome”. (Assoc. Prof. Dr. Eng., member of selection committee, member of evaluation boards, female)*

*“In practice, in every appointment or promotion procedure, since there are no unified criteria, the meaning of the term ‘excellent research achievement’ is determined by the evaluation board.” (Assoc. Prof. Dr., member of evaluation boards, male)*

Others have just the opposite standpoint, where excellence in research is demonstrated by the acknowledgement by the scientific community of a particular field:

*“But I don’t think that the committee ... the board ... evaluates the qualities acknowledged by the scientific community. It merely takes stock of these qualities (internationally acknowledged publications, etc.) and takes the decision: ‘Yes, he/she is ready for the degree or the position’, i.e. its assessment is secondary and takes stock of the assessments made by the scientific community.” (Assoc. Prof. Dr., member of evaluation boards, male)*

*“Well, which outcome could be classified as an ‘excellent research achievement’ – it’s difficult to have a unified criterion. The evaluation board is the least to pretend to be the only arbiter holding the ultimate authority to decide on the excellence of scientific achievements. From my point of view, the scientific community has this privilege. But in cases of appointment and promotion procedures the scientific community cannot always impose its influence, except in rare cases. It’s obvious that lots of things should be changed in this respect, I think, in order to define better assessment criteria. (Prof. DcS, chairman of selection committee, member of evaluation boards, male)*

In terms of how research achievements are being measured and evaluated all of the interviewees give highly disapproving comments. Among the most criticized points of the present procedures and practices are: formal approach during the assessment which mainly focuses on quantity without taking into account the quality of a researcher’s output; uniform methods of evaluation without taking the peculiarities of the different scientific fields and disciplines into account; high level of subjectivity and/or arbitrariness of the peer assessments, especially with regard to the interpretation and application of the criteria or indicators (“coefficients”) provided in the current regulations.

*“Generally, there are coefficients which are indeed quite disputable since they refer (and are being applied) to all scientific domains and disciplines. However, in every science, there is a proper metrics regarding the research output. For instance, in the biological sciences the IF (Impact Factor) and HI (H-Index) is higher comparing to some other natural sciences. For example, HI 6 in Mathematics and Computer Science is equal to HI 10, if I remember correctly, in the Biological Sciences. Therefore, general indicators, unified criteria or coefficients ... this is just an impossible approach! The imposition of general criteria, unified for and applied to all sciences, leads to a complete formalism. ” (Assoc. Prof. Dr., member of evaluation boards, male)*

*“Moreover, there is a distinction without a difference ... i.e. it’s not important who actually cited your work.” (Chief Ass. Prof. Dr., unsuccessful female candidate)*

*“I don’t think that such a survey has been carried out. The evaluation is done according to the given quantitative indicators and coefficients including, for instance, the number of international publications. But nobody cares about the topic, the content, or the real value of these publications. The number does not denote the quality”. (Assoc. Prof. Dr., unsuccessful female candidate)*

The weightings of the different outcomes and achievements are among the most commented topics with regard to the evaluation of the overall research output. According to some interviewees the largest weight should be assigned to the “purely” scientific ones: number of publications in highly ranked international journals; number of citations (IP, H-index, G-Index, etc.); number of participation in prestigious international conferences or other scientific events; memberships in editorial boards; etc. Most of them emphasize the “international” dimension of these outcomes, although there are some opposing voices:

*“... the number of publications in national and international refereed journals; participation in prestigious national and international events ... the most important aspect is the international performance of a researcher – and his or her internationally recognized results are weighted more strongly.” (Assist. Prof. Dr. Eng., unsuccessful female candidate)*

*“I think that the publications abroad have the strongest weight, as well as memberships in editorial boards of international scientific journals, books in foreign languages, teaching or research in a foreign institution.” (Assist. Prof. Dr. Eng., unsuccessful female candidate)*

*“The ‘published abroad’ works are highly weighted in evaluations, but what does this ‘published abroad’ really mean?” (Assoc. Prof. Dr., member of evaluation boards, male)*

Some other respondents put stronger emphasis on the teaching aspect: number of written textbooks and instruction guides (especially regarding experimental work in laboratories, etc.); support and supervision of PhD students (number of successful PhD students under the supervision of the researcher); creation of a successful “research team” or “school” of followers, who could continue the research work within the identified problem field or scope of topics, i.e. creating a “research community or society” of people sharing certain values, ideas, viewpoints, interests, passion for investigating; etc.

Again, the applicability of the research outcomes is often mentioned as a very important criterion during the evaluation processes, especially for researchers from the technical and engineering fields.

*“In my opinion, the applicability potential of scientific results, their practical value for production, or for the development of the industry, should have much stronger weight in the*

*evaluation of research output. Moreover, they should have the biggest weight. If they are taken into account, the peers have a more complete picture of my real work, and thus it can be evaluated much more adequately” (Assoc. Prof. Dr. Eng. successful candidate)*

Gender does not appear to be a serious obstacle or decisive factor in hiring and promotion procedures according to most of the interviewees. All of them find the rules, criteria and procedures as gender neutral and equally achievable for male and female candidates. Caring duties of women scientists are regarded by both as a natural and self-evident truth grounded on the physiological difference. The social dimension is most often omitted. What is important to note here is the interviewers’ general impression that the male respondents seemed to be disinterested in that aspect (their responses were short and formal), and that the female respondents seemed never to have thought about it. The male-female disproportion in certain scientific fields and management positions are explained by the different aspirations of men and women, again due to the difference in physiology and natural characteristics. No respondent reported to know about a case of discrimination against a female applicant in favour of a male competitor.

*“The criteria are equally achievable for both male and female candidates. Yes, here I have never made a difference between men and women. ... For me, men and women are almost equal with the only exception that a woman always has more family duties.” (Prof. Dr., successful female candidate)*

*“For women the criteria for promotion are a little bit more difficult, I guess. Actually, I am sure, that they are more difficult for women.” (Assist. Prof. Dr. Eng., unsuccessful female candidate)*

*“For me, the criteria for promotion are achievable for both. In fact, they are hard to achieve, but equally achievable for men and women researchers – there is no gender divergence, in my opinion.” (Assist. Prof. Dr. Eng., unsuccessful female candidate)*

## **COUNTRY COMPARISONS**

Findings from ITU, RWTH, FBK and UL all show that scientific achievements and qualifications mainly refer to “publications” and “international mobility” (including conferences, networks etc.).

First of all, the findings from each institution share the significance of scientific successes in the hiring process. ITU, RWTH and FBK exhibit a similarity in the way that soft skills and/or personal qualifications are among the indicators of scientific achievements and qualifications. Various interviewees from these universities mentioned that institutions do not make clear-cut distinctions between the significance of contributions to science and of personal characteristics necessary for being a top-level scientist. FBK’s findings are interesting in the sense that a candidate may not be comfortable with such

an approach by committee members since it is much more difficult to objectively evaluate characteristics such as personal skills and attitudes than to weight scientific achievements and qualifications.

Consideration of other criteria, such as soft skills, which committee members might deem indicative of scientific success may also result in an unfair hiring process as described in the previous section. Nevertheless, even if scientific achievements are evaluated without considering any other criteria, such a methodology does not guarantee an objective hiring process. Interviewees from ITU are critical of the 'number of publications' criterion, since they consider quality to be much more significant than quantity. Similarly, RWTH also emphasizes the relativity of the criteria, as some of them cannot be evaluated by formal procedures. FBK also questions the "objectivity of criteria", presenting the comments by a female candidate according to whom the problem of "subjectivity" may negatively affect female rather than male researchers. UL's account also points out that there may be a gap between formal and informal criteria. Similarly to ITU, RWTH, FBK and UL, SWU's findings also focus on the difficulties of how to weight the various criteria. Interviewees from SWU criticize the subjectivity of indicators applied in the hiring/promotion process and they tell that it is implicit to answer "when and which criteria is more important than others." In summary, the same question is posed by all institutions: are the criteria being applied in the hiring/promotion processes objective?

It is important to emphasize that "external funding" is mentioned by both FBK and RWTH but interpreted in different ways. At RWTH, external funding is one of the criteria strongly weighted by appointment committee members. However, such criteria are criticized by the interviewees from RWTH. Similarly, researchers interviewed at FBK agree that external funding as criterion is not related to scientific capacity. These criteria are rather about management skills.

With regard to 'gender-biased hiring processes', a female professor from ITU states that women's responsibilities at home might bar them from study abroad, which in the hiring process constitutes a disadvantage for them. As long as their responsibilities at home remain in place, it is difficult for them to compete academically with men. Hence, the subordinate position that women occupy within academia is reproduced and the career progression of female researchers hindered.

RWTH contributes to the discussion of inequality in the hiring processes with a narrative by a woman researcher who tells how she experienced a hiring process to be unfair on the grounds of her gender. The narratives provided by UL also confirm that gendered processes hinder the accumulation of capital, as one of the interviewees suggests that "Women take time out to have children and because of this they tend to have negative cultural capital, which prevents their promotion." UL briefly concludes that male researchers are more likely to have cultural capital compared to females. All interviewees from SWU, by contrast, believe that processes are gender neutral.

More interestingly, one female researcher from RWTH stands out in her account of the hiring process in that she assumes that today there is positive discrimination for women in science. She further remarks that she felt favoured by such a policy in the hiring process she experienced.

## 5.2 FITTING OF THE PERSON

### 5.2.1 FITTING OF THE PERSON AS A MEMBER OF THE SCIENTIFIC COMMUNITY

Fitting of the person as a member of the scientific community can be defined as social capital, i.e. resources based on group membership, relationships, networks of influence and support. Bourdieu described social capital as 'the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalised relationships of mutual acquaintance and recognition' (Bourdieu 1986:248). Social capital has two components: first it is a resource that is connected to group membership and social networks. "The volume of social capital possessed by a given agent ... depends on the size of the network of connections that he can effectively mobilize." (Bourdieu, 1986:249) The second characteristic of social capital is that it is based on mutual cognition and recognition (Bourdieu 1980; 1986, 1998). This is how it acquires a symbolic character and is transformed into symbolic capital. The entrance into the scientific field claims a sublimation that is demanded from each new entrant and is determined in the specific form of the *illusio*. Sharing the *illusio* is necessary for participating in the field. It is the belief that the scientific game is worth the effort, that the objects of the field are so relevant that they are worth to invest high and time consuming engagement in a highly competitive field. (cf. Bourdieu, 1998a:27)

Therefore, the fitting of a person as a member of the scientific community means, according to Bourdieu's framework, the extent to which the candidate 'aligns', i.e. has social and/or cultural capital which will align with the needs of the department. Thus, to 'embody' this 'alignment' is both social capital and symbolic capital.

#### **BRUNO KESSLER FOUNDATION, ITALY (FBK):**

No explicit reference to this point has been made by the interviewed candidates and committee members. It can be inferred from the interviews, however, that the indicator considered most important for a person's 'fitting' into the international scientific community is their scientific output in terms of refereed publications and conference talks.

#### **ISTANBUL TECHNICAL UNIVERSITY, TURKEY (ITU):**

In addition to scientific achievements as analysed above, an excellent researcher is also expected to devote herself/himself to his/her career in order to be suited to enter a scientific community. In this regard, Poyraz tells that, "You look for one's eagerness to do research. If a group of researchers are

working till 22:00 then a research assistant should not leave the office at 18:00. So, you need to evaluate one's self-devotion to his/her work". According to Poyraz, a researcher's potential to devote his or her time to research is an important criterion – the researcher's capacity to consider the academy as a way of life rather than a series of routine obligations.

Although he does not consider whether such a criterion can be met by a female researcher, in the later part of the interview, he adds that female researchers may have quite a few other responsibilities if they are married and have a child:

"In terms of household responsibilities, a man spends 10% of his time but a woman spends 70% of her time, so they have less time for their career. The women researchers, who do not have household responsibilities and get professional help for housework and childcare, are able to spend their most of time for their careers. Yes, we need to be honest to accept that women are in a disadvantaged position".

Although Poyraz never accepts that there is gender-based discrimination in hiring processes, he defines household responsibilities to be the domain of women, which will be an inevitable obstacle to working late hours. What is more important, if one prefers not to work late hours, this will have negative consequences in the long term: a female researcher will not be able to accumulate "scientific capital", i.e. publications etc., by rejecting to spend all her time with the research group. Further, she will fail to earn social capital by "hanging out" with her colleagues and networking. In short, if one goes home earlier than "expected", being excluded from the "old boys' network" will become much easier.

### **UNIVERSITY OF LIMERICK, IRELAND (UL)**

In terms of the candidate 'fitting' as a member of the scientific community, both for internal competitions (progression and promotion) and external competitions (lecturer posts), having a PhD, teaching expertise and research outputs were necessary. No references were made to this in the interviews.

### **RWTH AACHEN UNIVERSITY, GERMANY (RWTH)**

The fit of a person as a researcher in the scientific community who shares the *illusio* of the scientific field is a factor that is most relevant for young researchers who have applied for an assistant or associate professorship. At this level the selection committee tries to rate the *potential* of the person as a researcher as well as his or her academic personality. At the full professorship level a certain fit is assumed to exist, and the fitting or alignment with the strategic goals of the faculty becomes a decisive criterion, i.e. to win a researcher with high reputation and leadership skills.

*“I think that as a personality, one should really deeply want to go in this direction, because difficulties come with it. It is not the easiest job. And the criteria change depending on who you are confronted with. If you have someone at the beginning of his or her career or someone who is already in the middle of the process; of someone in the middle you can say that you want to see that he also brings performance in organization or as a leader. If someone is at the beginning, a newly appointed colleague, you try to make sure that he thinks he can do this as a personality.” (female professor, successful candidate, Mathematics)*

### **SOUTH-WEST UNIVERSITY “NEOFIT RILSKI”, BULGARIA (SWU)**

Most of the interviewees understand the term “scientific community” in its broader meaning. It is not the community of the immediate colleagues from the same department, faculty or university but a society of those working in the same scientific field or scope of research topics. A scientific community involves researchers from other universities, research institutions, societies, etc. in the country and especially from abroad in a wide web of horizontal relations. These are the people with whom a researcher can discuss very specific scientific problems speaking the same language, share interests and ideas, cooperate in research, communicate intensely and frequently, etc. The scientific community of a department, faculty or university is regarded as a collegiate body of co-workers from different domains and investigating at times quite diverse scientific issues. This second understanding of the immediate institutional scientific community does not only involve horizontal but primarily hierarchical and most often administrative relations. The co-existence of these two dimensions of the scientific community creates an academic environment in which a researcher can feel either isolated and disintegrated or safe and comfortable. The fit of the person in this “second” institutionalized scientific community is analysed in Theme 3. Here the analysis of “fit” refers to the scientific community in its proper sense.

*“Unfortunately, I am much better known and much more appreciated by scientists outside the university and even outside the country than in our own university!” (Assist. Prof. Dr., Computer Science, female)*

To be a real scientist, a reputable member of a scientific community, means a number of specific qualities for most of the interviewees. First of all, one should be very well acquainted with the developments and novelties in one’s field. Second, a researcher should have intense and effective communication and collaborative work with others. Third, a good scholar should inquire into substantial problems of high relevance to the research community.

*“Most important are his or her competencies and knowledge ... a researcher should keep a close watch on the current novelties in his or her scientific field.” (Assoc. Prof. Dr., Chemistry, female)*



*“The scientist should be industrious, ambitious, and keep abreast with the present stage of research on the global level, even spending own resources when his or her institution does not provide enough ... and also, to be a good psychologist in order to communicate effectively with students and colleagues, not only during study sessions but even in his/her spare time.” (Assist. Prof. Dr., Electrical and Electronic Engineering, female)*

*“There is a lack of effective research teams, of people who collaborate sufficiently in order to attain outstanding research results together. We have not been brought up to work in such a way, collaboratively. I am definitely saying that! (Assoc. Prof. Dr., Geography and Ecology, female)*

According to most of the respondents, a person’s fit as a member of the scientific community does not depend on gender, but on personal qualities and achievements such as communication skills (especially in foreign languages), persistence, hard work, research competences, etc.

*“The most important competences for any researcher relate above all to the following two things – the first is excellent knowledge of his or her scientific field. The second one is extremely important from a Bulgarian perspective, because most of the other countries in Europe have already solved this a long time ago. This is the good command of the foreign language which is acknowledged and used in his or her particular research field. For the computer sciences, for instance, this is English. If a researcher is not able to write a scientific paper in the major language used in the field; if he/she is unable to participate in formal and informal discussions with colleagues and thus lacking in normal communication, he/she will be isolated and fail in his/her scientific career. Because, even if a researcher has attained excellent achievements, he/she would not be able to communicate them to the scientific community, neither to get involved in research projects or any other kind of international collaboration, etc.” (Assoc. Prof. Dr., Computer Science, male)*

Nevertheless, several interviewees comment on the fact that in some fields there are traditionally established roles, perceptions, expectations and attitudes depending on gender, i.e. dominated by one or the other sex. They usually have influence on the acceptance, integration and recognition of a new member.

*“Engineering sciences are generally more difficult to study than humanities. This is my personal opinion. They are not sufficiently attractive for women, especially programs in the fields of, let’s say, Mechanical or Machinery Engineering. From this point of view, I think that low attractiveness of these sciences results in a significantly lower proportion of female scientists in higher academic positions or in top management. I have been occupying such a managerial*

position and it costs so much energy and involves high workload and stress levels.” (Assoc. Prof. Dr., Communication and Computer Engineering, female)

“The disproportion of men and women in particular in sciences derives from certain features of the genders. Well, it’s been proven that women more than men have a natural affinity for beauty ... while in mathematics and engineering there are, indeed, more men. In contrast, there are certain occupations, not only in science, that are dominated by women .... There are different gender proportions in the different domains of science ... i.e. women and men have different affinities. In the humanities ... the number of women is high, isn’t it ... pre-school teaching, and especially nursery! That very word “nurse” has only female connotations, hasn’t it ... this doesn’t mean that men could not be pre-school teachers, of course, actually there are some – my daughter’s teacher works in a kindergarten and he is very good in working with children ... we are completely satisfied with him, ... so, we do not have to be biased by such gender differences ... or for instance, a woman-porter – I cannot imagine it ... So, I think that the gender disproportions are not the result of some kind of gender discrimination. As far as managerial positions in science and mathematics are concerned – from my point of view, there are more men than women because statistically the number of men in these sciences is higher, so that the probability to have more men in top positions is higher. In other fields it could be, and even I think that it is, different.” (Assoc. Prof. Dr., Computer Science, Programming, male)

“In some scientific fields there are certain well established inclinations ... especially in the engineering sciences. A long time ago, when I was a student, it was widely held that a woman could hardly become an engineer. And indeed, there are domains where I cannot imagine a woman ... for instance, heavy machinery construction, mining, founding, etc. ... how shall I put it, ... much more physical power is necessary to work in those fields, and men are those who naturally have it. It’s not a question of intellectual powers, but if you can go down, inside and work hard just in the biological sense ... these are different types of qualities ... while, for example, in mathematics they are not necessary, and I think that there are not such significant gender disproportions in mathematics.” (Assoc. Prof. Dr., Informatics, male)

All for these reasons, the scientific community is the most trusted authority and its acknowledgement and recognition is highly aspired to by scientists. This is how an interviewee describes the profile of the perfect scientist:

“On the whole, the most important for him/her is to be internationally visible, i.e. to publish intensely; to be acknowledged in the country; to be well known and recognized in the scientific community of one’s field; to be able to design projects; to be able to communicate effectively; to attract young researchers and support their development; to organize and lead research

*teams for work on substantial and significant problems; to be well known in the spheres where one's research results have been applied; to be known also around communities and institutions which employ one's disciples; to be esteemed by industry or businesses which utilize one's research outcomes in order to raise productivity, effectiveness, quality, etc..” (Assoc. Prof. Dr., Communication and Computer Engineering, female)*

*“When a given research result, a scientific outcome in a certain field is appreciated by the scientific community, by scientists from the same field, when they recognize a certain scientific achievement of a particular researcher, this in itself speaks for the real quality of that achievement” (Prof. DcS, Former Vice-Rector for Research and Chairman of the University's Selection Committee, male)*

Fitting of a person in a scientific community dominated by the opposite gender turns to be a critical point for both genders.

*“Simply, communication with the social environment in certain fields may have crucial effects on the personal development, ... because, for instance, at a large construction site most of the workers are men ... and not because they will look at her as a woman, but .. how to say, one behaves within a large group of men as a man, and respectively, within a large group of women as a woman ... so, a woman could lose her female characteristics. This is at least my explanation, but maybe I'm wrong. While telling that, I am not influenced by some kind of sexism ... I only think that we, as people, develop in different ways which depend on established models and attitudes within certain communities.” (Assoc. Prof. Dr., Computer Science)*

## **5.2.2 FITTING OF THE PERSON AND PROMOTION**

If promotion is understood as to advocate either the individual scientist or the concept of scientific excellence, then it refers to the *illusio*, which demands the commitment of an actor in the scientific field to the struggle for positions/power within the field. *Illusio* is in fact of being interested in the game, of taking the game seriously, of believing the game is worth the effort. The notion of *illusio*, is the fact of attributing importance to a social game, that what happens matters to those who are engaged in it, that the stakes created in and through the fact of playing are worth pursuing, it is to recognise the game and recognise its stakes. (Bourdieu, 1998b:76-77)

If promotion is to raise a person to a higher position, then this is institutionalised cultural capital, because this kind of capital consists of institutional recognition, most often in the form of academic credentials or qualifications, of the cultural capital held by an individual. The institutional recognition process thereby eases the conversion of cultural capital into economic capital. As described above in the context of the scientific field, Bourdieu conceptualized this kind of promotion on the base of

institutionalised scientific capital of persons in the field who have the power to raise “the right people” to a higher position.

### **BRUNO KESSLER FOUNDATION, ITALY (FBK)**

Female interviewees agreed that women tend to be disadvantaged in climbing the career ladder because skills that go beyond scientific research in the strict sense are not recognized as relevant in promotion decisions:

*“Often the capacities that one has outside of research are irrelevant during job interviews. No one has ever asked me during a job interview whether I had other interests beyond the ability to use a language or an operating system. We women are different from men. We find it difficult and boring to concentrate on one single thing. Multitasking comes natural to us. Probably [decisions made in appointment processes], which are mainly made by men, do not take this female ability of multitasking into account as a valuable resource.” (Committee member, professor of IT, female)*

### **UNIVERSITY OF LIMERICK, IRELAND (UL)**

In the interviews, participants understood promotion as being raised to a higher position. However, in competing for promotion and applying for promotion competitions, the concept of the *illusio* was apparent. The analysis has captured that there is a gendered approach to promotion processes and suggests that men understand the *illusio* better than women, and they engage more effectively with the ‘game’ of seeking and obtaining promotions.

*I felt like for instance maybe it’s a female thing but I certainly wasn’t selling myself the way I should have. And I realised you know you have to play the game as well, so actually one, our course leader from one of the courses that I teach on, he never read my application but what he said to me is ‘do it the way the men do it’. That’s exactly what he said to me, ‘Sell yourself as best you can and gloat and gloat and gloat because no one is going to read between the lines’. And he was so right. So right, so I actually changed my whole portfolio based on that. (Jennifer, Academic)*

*I would say I’m aware of the game, the game has changed for me, when I joined, the game was an inner circle of mostly men in my area. And that if you wanted to play the game and be promoted and whatever through the process, you did favours for people, you did this, that and the other and I just, that wasn’t me so I just stood back, so I was an outsider. But then that is part of the game, you have those that are inside and those that are outside, so you have to step back again from that and say ‘well this is my job, these are the parameters I’m operating within’. (Barbara, Academic)*

*But then let me say this and I do firmly believe this, that women waste their time doing the right thing. And I would say doing the right thing. They are more committed lecturers; they are more committed to the peripherals than the men, looking after the students, being more diligent with lecture preparation and commitments to the communities. And all those other areas which give them no brownie points, when it comes to promotion. Not quantifiable. I've done it myself in the past, to my detriment in promotion, but we can't help ourselves. So I can see it with the woman lecturer that was appointed you know. She's so diligent. Compared to her previous male appointee who was not that diligent (Dawn, Academic).*

*Often the female academics who take the roles, student mentors or any of the other service type situations, in my experience ... it would be women tend to have more, tend to do these roles more than their male colleagues. I generally would see the males tend to put their research first and then they will fit in the others as they can. But for whatever reason, even when you have the candidates that I talk to after interviews they have said to me you know 'it was only during the interview I realised how much service I've done and I feel I should have given more time to my research', I've heard that, people have said that to me, I'd say fifty times by now [by] candidates, female candidates. (Amy, Human Resources)*

*You do see very young female course directors, I mean they're hardly in the door, because they're willing bodies they'll take it on and they suffer long term. (Holly, Human Resources)*

## **RWTH AACHEN UNIVERSITY, GERMANY (RWTH)**

The universities in Germany are facing massive expectations of gender equality from politics and also funding organizations. These have led German universities to implement gender equality measures which most of the time directly aim at increasing the number of female professors. Those activities are often welcomed by the faculties, but at the same time, the resulting 'side effects' are regarded with worry. Some of the interviewed male and female professors mentioned certain "side effects".

The worry within the faculties and departments is that the principle of 'selecting the best' will be eliminated and thus less qualified woman will be preferred over qualified men. This is also due to the fact that the final decision which candidate is chosen from the list of three is made by the Rector of the university. It seems that sometimes, as an effect of this formal procedure, specific strategies are pursued in order to avoid women being invited to interviews.

*„The commission is writing whatever it wants to prove why this or that woman cannot be invited. This is what is also damaging for women, that in theory there is need to invite all of them. It is a duty. And then the commission is afraid that when a woman is invited and makes it to the list, that this list will pass directly to the university board, which was not the case with*

*Prof. x and therefore, because it is not known yet, the risk has to be avoided and so one will try not to invite the women. And then they will create some absurd argument such as she does not have the very specific competences in the part of the area that is explicitly mentioned in the announcement. These arguments cannot be proven wrong. And it has happened several times that a woman who would normally have been invited did not get invited because of this duty and the worry that something bad would come of it. Because when for example her presentation would be really unconvincing and you have to put them on the list anyway, then we have a problem and this is tried to be avoided by making different choices beforehand. And this forced preference of women is what in reality leads to a disadvantage, really serious disadvantage!” (Retired male professor, Computer Science)*

*Prof: When there is a list [of selected candidates] and for example a woman is in third place ... well, in the past they used to say that you cannot put a woman in third place because she’ll be moved to the first place right away. I think this is idiotic, really. In such cases one needs to focus on academic performance and if it is the case that a woman was evaluated in an unfair manner then you have to talk to the commission and discuss openly and honestly. Of course there is the danger that a woman is evaluated more critically just because of the social discrepancy, that she is given a less favourable assessment. That happened also to me a couple of times for sure.” (Female professor, Engineering)*

Women who are convinced that they were appointed as professors due to their outstanding achievements may see a danger for themselves through the “new” appointment practices that produce “quota women professors”. They see the “side effect” of this kind of gender equality policy that their achievements might be devalued. They may also feel to be under suspicion now, in the sense that their performances have not been evaluated according to high scientific criteria standards.

*“I think that it still depends on whether one really wants to have the candidate. And it is really difficult to evaluate all this, due to gender equality policies. I don’t know myself sometimes what I think about it. I haven’t really made up my mind. Well, of course, there are quite a few women who got their positions, where one ... ok, where all in all it’s not so great.”(female professor, Engineering)*

Especially younger female professors who participate in gender equality oriented mentoring or coaching programs, judge these processes rather positively and are not rattled by “quota discussions”.

*“Especially in the Computer Science department I did not have the impression that there are disadvantages for women. On the contrary, it has the advantage that I can be sure that the commission will look at my application closely. Normally there are about five women that apply,*

*if you are lucky, and about fifty men. The applications of the women will be viewed in detail, maybe also the publications. The applications of the male applicants will partially be rejected on rather superficial grounds. I think this is a great advantage you have as a woman; also, that the commissions are explicitly asked to invite women. I guess this also has the advantage that they think more about which of the women they would like to talk to in person, and to get invited to such an interview is more an advantage than a disadvantage. Even if you get invited as a 'disguised quota woman' you still get the chance to make a good impression. And if a commission works properly, like the commissions I have been a part of so far, then a woman who was only invited as an also-ran can get into the appraisal and if the referees say that the woman is good, she can also come in at first place." (female professor, candidate, Computer Science)*

### **SOUTH-WEST UNIVERSITY "NEOFIT RILSKI", BULGARIA (SWU)**

The new Law for the Promotion of the Academic Staff in Bulgaria was enacted at the end of 2010. The old Act regulating the appointments and promotion of scientists was in effect from 1972 till 2010. The system used to be uniform, hierarchical and centralized under the control of the Government. Since 2010 it has been completely decentralized. Now every academic institution has its own appointment and promotion criteria, rules and procedures. These have created a quite complicated environment of coexistence of new diverse rules and regulations together with old uniform notions and attitudes. For that reason, most of the interviewees were referring either to the old or to the new system with a strong criticism.

*"Well, the appointment and promotion criteria cover so many things that ..., simply, they refer to issues which, in my view, do not have anything to do with scientific achievement. The current criteria are so diverse and heterogeneous that a researcher should be an all-round person in order to satisfy them! I don't think that they reflect only scientific achievement." (Assist. Prof. Dr., Mathematics, female)*

*"Promotion depends on absurd selection procedures ... positions are limited in numbers, and there are several votes on the different levels – Selection Committee, Faculty Council, Academic Council. If a researcher is ready, i.e. if he/she has sufficient scientific output to meet the criteria, why wait until a position is open? He/she may be very talented! I can give an example about a colleague of mine who obtained a DcS degree [higher than a PhD] but was supposed to wait for a long time in order to apply for professor's position, which is not normal. This is a big weakness of the present promotion system." (Assoc. Prof. Dr., Geography and Ecology, female)*

*"Changes in the Law! I am pretty certain, ... changes in the Law for the Promotion of Academic Staff should be enacted in order to prevent heads of departments, deans, and rectors from*

*influencing the promotion procedures. Perhaps it should be centralized again, with some improvements, of course. I don't mean to reinstate rigid procedures and structures such as the central HAC [Higher Attestation Committee], but the value of the scientific output should be evaluated according to national and even international standards rather than solely institutional one, as it is now. To be a professor of your own university is somehow reasonable, but to be a doctor [PhD, DcS] of your own university? ... And how can this doctoral degree be recognized by other institutions when the criteria for awarding it are completely different from university to university? ... I'm getting so emotional when talking about all these because I've seen such absurd things." (Prof. DcS, Former Vice-Rector for Research and Chairman of the University's Selection Committee, male)*

During totalitarian times the ruling Communist Party imposed the policy of the so-called "emancipation of women," providing equal opportunities for both genders and also quotas for women and men in a number of domains. Consequences of this policy and the culture it created still exist and can be clearly seen in the interviewee's responses. Both the old and the new criteria, rules and regulations are gender-neutral.

*"It all depends on the attitude! I don't think that any particular measures are necessary for equal treatment of men and women in the promotion procedures ... rather it depends on the attitude of the evaluation board (jury) members." (Assoc. Prof. Dr., Chemistry, female)*

*"In my opinion, they should not make a difference between male and female candidates." (Assoc. Prof. Dr., Computer Science, male)*

Despite the fact that the criteria and procedures are gender-neutral, different interviewees have opposite experiences and opinions:

*"A particular committee or board, if it consists of men only, they should favour female candidates rather than male ones if they have equal competencies and achievements." (Assoc. Prof. Dr., Computer Sciences, male)*

*"I'm familiar with cases where female candidates were favoured in promotion." (Assoc. Prof. Dr., Computer Science, male)*

*"I have felt that! They prefer men even if the achievements of the applicants are equal." (Assist. Prof. Dr., Geography and Ecology, female)*



The interviewees agree that women face more difficulties in pursuing their scientific careers due to maternity periods, family duties and other specific obligations, but could not suggest any measures which favour them in promotion.

*“I think that they could suggest some gender relevant criteria but from a science point of view this is not relevant. It does not matter if a researcher is a man or a woman. He or she should have certain scientific aspirations and strive to realize them employing methods and approaches equal to men and women. Men and women struggle with the same difficulties in their career advancement. The fact that men often ignore part or all of their household duties provides them with more spare time, while a woman usually cannot do that. She tries to compensate – at home, as well as at work, making so many compromises. It is not fair but I don’t think it’s reasonable to suggest additional criteria favouring women in promotion procedures.” (Assoc. Prof. Dr., Communication and Computer Engineering, female)*

Many of the respondents find that keeping strong ties with those in power could be a decisive factor for the success in an appointment or promotion procedure.

*“The causes which could influence the results of a promotion procedure are not few but they are not of a kind which could compromise the objectivity and equal treatment of male and female candidates – I cannot see any such causes. Maybe, what matters more is whether men and women applicants have the support of those who possess power to influence the promotion procedures. Gender of the candidates does not matter at all. What only matters is whether your boss, the head of the department, your dean, or someone else at the top favours your or not.” (Prof. DcS, former Vice-Rector for Research and chairman of the University’s selection committee, male)*

*“Sometimes non-scientific reasons have a decisive effect on the success or failure in promotion procedures!” (Assoc. Prof. Dr., Informatics and Mathematics, male)*

*“Most of all the relations between researchers and those in managerial positions!” (Assoc. Prof. Dr., Informatics and Mathematics, male)*

## **COUNTRY COMPARISONS**

Bulgarian and German interviewees distinguish different aspects of fitting which depend on a different understanding of the term “scientific community”. According to German researchers there are three dimensions: 1/fitting of the person in science; 2/fitting as a person in the specific cultural environment of the university; and 3/fitting between the strategic guidelines of the university board and the goals of the faculty. According to Bulgarian researchers there are only two dimensions: firstly, a society of

people working in the same scientific field or scope of topics, including researchers from other universities, research institutions etc. in the country and especially from abroad tied in a wide web of horizontal relations; secondly, the scientific community of a department, faculty or university regarded as a collegiate body of co-workers from different domains of science involved in both horizontal and mainly hierarchical administrative relations. The co-existence of these different dimensions of the scientific community creates an academic environment where a researcher can feel either isolated and not included or safe and comfortable. In Turkey, interviewees emphasize the “eagerness and self-devotion” of the scientist which requires working long and late hours in research groups in order to fit in and be acknowledged. The Italian and Irish respondents make no explicit references to this aspect, although it can be inferred from their interviews that they perceive scientific output (refereed publications, conference talks, etc.), having a PhD, teaching expertise to be important prerequisites. Bulgarian interviewees even add personal qualities, among which communication and collaboration skills are considered the most important. One other important aspect of fitting is pointed out by German interviewees: at the earliest stages of the scientific career, young researchers tend to be evaluated according to their potential as a researcher and academic person. At senior level their fitting is taken for granted, so fitting with the strategic goals of the faculty becomes a decisive criterion.

According to the interviewees, “fitting in the scientific community” does not depend on gender, although there are many gendered aspects to this issue. Time as a crucial resource for any research work is not equally available to male and female scientists due to biological and social reasons. According to Turkish respondents a woman cannot work into the night or spend all her time with the research group. Time as a critical obstacle for a successful career of women researchers is also discussed by Bulgarian researchers. A further issue concerning gender that they mentioned in the context of fitting is the fact that there are traditionally established gender roles, perceptions, expectations and attitudes which have impact on acceptance, integration and recognition of a new member. In this sense, the fit of the person in the scientific community, no matter of the person’s gender, can become a substantial problem with diverse consequences when the community is dominated by the opposite gender. (*“one behaves within a large group of men as a man, and respectively, within a large group of women as a woman ... so, a woman could lose her feminine characteristics”*).

In most participating countries contributors to the current research understand promotion as “being raised to a higher position”, although Turkish colleagues admit the sense of advocacy attributed to this term. That might be due to the fact that in Turkey and as well in Bulgaria appointment and promotion procedures intertwine with one another.

In all partner countries promotion procedures are reported to be gender neutral. However, in Germany there are currently certain gender equality activities and policies aiming (sometimes quite

directly) at raising the number of female professors. As reported, this trend has resulted in a number of negative “side effects”. The major concern is that disregarding the principle of “selecting the best” will give way to a preference of – possibly less qualified – female candidates, leaving better qualified male applicants out of account. This equality policy has been launched due to the fact that frequently the research output of female candidates was devalued in favour of that of male candidates. Generally, introducing measures (like “quotas” for women) or criteria to promote female candidates in promotion are strongly criticized by both men and women researchers in all participating countries. In Bulgaria, in the communist past, there used to be “quota women” at the undergraduate level, providing opportunities to a greater number of female specialists in all domains; however, this was not applied to appointment and promotion.

For the majority of interviewees from all the participating countries, the ‘care’ ceiling is the most decisive factor to disadvantage women in their career progression. Despite that, for both male and female respondents this factor should not be taken into account, neither in the criteria nor in the promotion procedures. Another important aspect is addressed by the Irish contributors, who attribute importance to the notion (the *illusio*) of professional advancement as a social game. Women are disadvantaged in this game since men understand the *illusio* better and engage more effectively with it.

### 5.3 FITTING OF THE PERSON WITH A SPECIFIC SOCIAL BACKGROUND

#### 5.3.1 LOCAL LOGICS

To some extent all logics are approximate and local, and refer to the cultural and social norms which influence the logic used to make decisions in a particular locale, and to the zones of acceptability of decisions made within a specific institution. Local logics include, for instance, the characteristics of ‘excellent’ candidates, such as qualifications, publications and research grants, but also more institution-specific intangibles such as team work and leadership, which are made known to candidates in job descriptions and advertisements.

Each university or research organisation is subject to national and regional policy demands. As a result, specific demands are placed on the organizational units responsible for the appointment of researchers. For instance, if a university follows the strategy to be particularly strong in gaining grants, there will be an expectation that appointed researchers are very successful in gaining grants. If a research organization lives a culture of daily attendance, then it is to be expected that successful candidates will move – together with their families – to the city where the institution is located.

In this context, fitting of the person with a specific social background which will be acceptable to the local logic of the department or the institution is cultural capital in its embodied form. The concept of ‘local logics’ is important in this analysis as it shows how assessors frequently select ‘safe’ candidates

according to qualities that are familiar to them. These candidates are considered 'safe' because they possess qualities familiar to the assessor, such as gender or gender-related indicators such as age or maternity, as well as non-gender-related indicators defining 'insider status', such as class. Local logics are important because the definition of excellence is constructed by selection boards and in turn interpreted and embodied by candidates who, as a rule, gather information on the local logics before presenting themselves as candidates for the position in question.

### **BRUNO KESSLER FOUNDATION, ITALY (FBK):**

Being able to meet the expectations and specific needs of the local department has been considered very important by all interviewees:

*"The selection should be made according to the strategic plan of the research centre. The evaluation criteria should contain flexible grids which are related to and mirror the strategic plan of the centre. Grids of this kind would help to make selection processes more transparent because they would be shared and decided bottom up, i.e. according to the specific needs of the moment. It is not always the candidate with the highest impact factor that best serves the centre. It may very well be that at a given time it is more important to choose the candidate with the best managerial skills." (Committee member, head of research department, male)*

One head of centre maintained that the introduction of female researchers into the research unit should be valued because she assumed that women have different attitudes and sensitivities in approaching research activities, and these qualities are gaining in importance in the centre. Drawing on essentialist ideas she suggested that women usually tend to be better team players and take care of common tasks, while males seek to impress and have a more individualized and ego-centred approach and sense of ownership over a research topic. When expressing appreciation for female researchers, committee members tended to emphasize women's communicative skills over and above their strictly scientific capacities:

*"Women have communicative skills which are very important for networking and fund-raising. Therefore it is good to have them in a research unit." (Head of research unit, male)*

Although such stereotypes legitimate women's presence in a research unit, they may ultimately inhibit their progression since they implicitly devalue women's scientific and technical skills.

### **ISTANBUL TECHNICAL UNIVERSITY, TURKEY (ITU):**

In terms of capabilities that affect the selection process there are two main factors; one involving personal qualities, the other personal characteristics. According to Yağmur and Ateş's accounts, whether a certain candidate is considered suitable for a position arises from his or her utility as a

researcher, which is determined by the specific needs of the academic context at a moment in time. For Yağmur, departmental needs are the most important criteria in a hiring process, as she clearly asserts:

*“While reviewing the candidates for an Assistant Professorship position, scientific excellence is not what we are looking for; we primarily seek someone who can meet the needs of our department, and we select the candidate who can enrich our department”.*

Poyraz also shared similar insights while at the same time posing questions:

*“What is important in a hiring process is the parameters of what the department needs. What is your goal with new personnel? All depends on the needs ... Will you be able to select a candidate that you do not like? If one selects such a candidate, then, I will say that one has a universal perspective.” (committee member, male, professor)*

Poyraz’s comment shows that personal relations or simply liking a person for various reasons can be the basis for considering them qualified or academically suitable. Again the idea of “safe person” appears as an important factor in the hiring process. Furthermore, Poyraz suggests that if an assessor is able to select a person they do not like, it is a measure of their objectivity, which implies that frequently selection decisions are based on ‘liking’ or the perception of familiar qualities.

Bourdieu’s (1996) theoretical propositions in the sociology of education highlight academic processes of qualification mostly on the basis of class interests. The underlying motivation of academics to pose ambiguous definitions of “need” appears to be opening up a space for candidates of similar social classes in academia. As a result it is possible that the class privileges of certain candidates enable them to make an impression on jury members as “safe” or “needed” while others, who belong to different social classes, might not leave the impression of being sufficiently “safe” to be considered as future colleagues. As the narratives suggest, “having important and necessary qualities” does not provide a safe ground. Nehir’s narrative at this point can help to understand what the jury members could not express explicitly:

*“Although the criteria for promotion are clearly defined by the Council of Higher Education, it all depends how the jury members interpret those criteria. So, this is all about how lucky you are.” (Candidate, female, associate professor)*

Nehir’s observation regarding hiring and promotion processes is that some jury members only consider publications, while fortunately other members take many other criteria into consideration, such as teaching abilities. Thus, according to Nehir, the process is based on the perceptions of the jury members. Nehir believes that if the jury members have similarities with a candidate, then he/she is

really in advantage to get hired or promoted. Nehir considers her own path and process of academic qualification to be determined by factors such as chance or luck. Consequently, as Morley (without year) suggests, “success was perceived by women as luck, rather than a result of skill and competence”. It might be argued that Nehir has internalized the patriarchal perception of the academy that women simply have to be lucky in order to succeed. Emphasizing luck and personal liking by a jury member for the candidate, Nehir’s narration also suggests that the social class to which the jury members and the candidate belong can be a determining factor in the academic process. The candidate can gain social capital, and increase his or her networking capabilities with the higher status members in the academic hierarchy, to the extent that he or she belongs to a similar social class as the jury. Nehir further underscores the gendered dimension of such a relation. In this particular instance, gender intersects with class in enhancing women’s subordination.

Rüzgar reveals that one has to appear to the jury having a good personality if he/she is to be successful. For him, there are lots of academics, who are egoistical in nature and who envy the works of others. Rüzgar says that he published articles in quality journals and one of the jury members told him that he did not believe that what he proposed in his article was true. Rüzgar’s narrative also suggests the importance of personal relations, which are sometimes established between the jury members and the candidates: a kind of an ambiguous relation of “need” and personal liking, which might reflect class conflicts and can determine a candidate’s success or failure.

Poyraz, points out that he does not agree with the common behaviour of those academics who hire candidates on the basis of “similarity” or “liking”. Following Bourdieu (1984, 1993), what we see here is the reproduction of the particular class “habitus” through the academic “field”; where the jury members are inclined to select those candidates that are similar to their class dispositions.

In Turkey, therefore, in addition to the issue of fitting with the local logic of the institution, as evident in the participants’ references to the research and strategic aims of the department, other criteria signifying suitability are being ‘safe’ and ‘likeable’. Furthermore, issues of class are relevant in the Turkish context; therefore, the issue of suitability suggests that both gender and class may be considered in hiring decisions.

### **UNIVERSITY OF LIMERICK, IRELAND (UL)**

Evidence of fitting with local logics was also found in the University of Limerick. As Dawn elaborates, it is necessary that the candidate will fit into the team.

*“In many cases it’s obvious the candidate isn’t suitable, the communications are particularly weak. Their answers to the questions are way off the mark. They make some stupid remark maybe in the thing that they’re going to do something else... you know when you talk about*

*team- work and things like that they (.) you just get that sense that they wouldn't fit into the department as a whole" (Dawn, Academic, Member of Hiring committee).*

However, one senior male academic considered that this might have a gendered element, in that the homosociability is part of the 'local logic' in the faculty

*"There is a tendency for guys to band together. That's a different thing. Guys tend to group together, they tend to form teams. It's something that's, I think it's natural in guys to do that. ... And in the process of doing that, if you're not on the team, you're outside the team. And there could be, not a, not if you like an overt gender bias, but there could be an implicit one on that basis." (James, Academic, Member of Committee).*

James suggests that to become a member of the team, candidates need to be similar to other team members, e.g. male. Thus if team working is a criterion, women are disadvantaged.

### **RWTH AACHEN UNIVERSITY, GERMANY (RWTH)**

In Germany, having management skills for professorial posts is part of the local logic of the university. A member of the selection committee in computer science explained that the task profile for a 'standard professorship' consists of research, teaching and management. Therefore, it does not suffice to be an outstanding researcher in order to be a successful candidate. The opinion prevails that especially at RWTH Aachen University, it is important to have substantial management skills in order to be able to lead a research team which will be successful in acquiring external funding. Further, the selection committee in computer science emphasized that teaching skills are very important, too, and therefore these skills are also a crucial selection criterion. However, there is no formal weighting of the three areas of competence.

Moreover, there is a specific culture that is lived and shared by all members in the computer science department. Group members have to be team players, highly aligned with the goals of the faculty, very pragmatic and present. If the candidates cannot convince the selection committee that they are willing to participate in this culture they have less chance of success.

*"And I believe that it is always a bit about that – there can be candidates that are really good, but just don't fit in the professional group. That can happen and one recognizes it rather fast. Just because, for example, it becomes obvious that the person is more of a lonesome fighter that he does not really want to deal with the professional group itself and things like that. They do not make a good impression [...] and that is something that is not evaluated by those external reviews." (Male student, Computer Science)*

Furthermore, at RWTH Aachen University, candidates also have to be prepared to work very long hours.

*“I would say this also depends on the profile of the position. I always say, the tasks of a standard professor at our department, the Chairs of Computer Science I to IX, are 50 percent teaching, 50 percent research, and 50 percent management. And he has to be good in these three areas. That’s why we make sure he is good at teaching, good at research and that he does not do any nonsense with his group. And those profiles have to be fulfilled.” (Male professor, computer science)*

It is interesting to note that this male professor implicitly assumes that the successful person is a male: “he has to be good.”

Finally, the applicants apply strategies in order to present themselves as suitable candidates in the selection committee. These strategies are directed mainly at the research profile as advertised in the job description. Also, candidates present themselves as complementing the overall scientific profile of the faculty. Furthermore they want to present themselves as having a pleasant personality.

However, the criteria of who fits into the department are not always the same criteria that the university provides on the basis of legal and strategic requirements, particularly in relation to appointing the candidate with the best scientific achievements in a specific research field. The freedom of the selection committee to apply selection criteria that are related to ‘fit’ are not measurable and work on the subjective basis of feelings relating to implicit similarity which is not acknowledged. These unquantifiable criteria present a crucial ground for gender discrimination. In male dominated scientific fields such as engineering and computer science, female candidates are likely to be regarded as dissimilar to male candidates. Evaluations of scientists who come from outside and who evaluate the candidates on the basis of their written application documents, which is a mandatory step in the appointment process in Germany, are an important corrective factor in the selection procedure. However, whether the selection committee follows the evaluators’ judgments or rather their own judgment depends on the strength and status of the departments in the university. Furthermore, local gatekeepers can also try to exercise influence over the decision regarding which evaluators will be selected.

### **SOUTH-WEST UNIVERSITY “NEOFIT RILSKI”, BULGARIA (SWU)**

The current appointment and promotion system (enacted in 2010) is strongly criticized by most of the interviewees. In contrast with the previous system, which was centralized at the national level, the present one depends on the management bodies of the university (councils and committees) and their heads only. This creates an environment in which local micro-policies have a strong effect on career



advancement of both male and female researchers. The crucial factor has turned out to be “close relations with people with power”. Past and present evaluation rules, procedures and criteria were and are gender-neutral. Rare cases of men and women being treated differently (favouring male or female applicants) have been reported.

*“The documents of the applicants are publicly available, but I can’t say that the appointment and promotion procedures are transparent. We can only see documents as demanded by the law for academic promotion and internal regulations. Yes, we have access to the publication lists, the peer reviews and the evaluation statements. But I confirm it again ... with this Law, when the jury members and peers can be appointed in a ‘friendly’ way ... what do we find in the applicants’ documents? Only statements full of praise.” (Assoc. Prof. Dr., Geography and Ecology, female)*

*“What matters most are the close relations of a candidate with jury members. Yes, I know that they sign a declaration that there is no conflict of interests, but it does not necessarily mean that they have no friendly relationships. One of the major defects of the present Law for academic promotion is the option which the candidates have – he/she can suggest the members of the jury. It shouldn’t be like that. The jury members should be selected at random. A candidate shouldn’t know who is going to evaluate his/her scientific output. In such a way the peers could review his/her outcomes much more objectively and in an unprejudiced way. It’s the most difficult task to assess the work of a friend or an opponent, since there is always an emotional aspect that produces a bias. (Prof. DcS, Former Vice-Rector for Research and chairman of the University’s selection committee, male)*

*“Excellent research results are those which are visible in the outside scientific world, so that their creator is clearly recognizable. ... In my view, the factors most valued in the present promotion procedures in our department, faculty and university are not credible enough. Most often the successful candidate in an appointment or promotion procedure is a protégé of the institutional or departmental management. (Assoc. Prof. DcS., Computer Science, male)*

### **5.3.2 UNDERSTANDING HOW THE CARE CEILING WORKS**

Lynch (2008) argues that a care ceiling is in operation in higher education, which is replacing the glass ceiling. This care ceiling puts a clear and definite limit to the levels people with care responsibilities can aspire to reach in universities. With the advent of new managerialism, education is defined as a commodity with a focus on productivity and assessment by measurable outputs for students and staff. This focus creates opportunities for direct and indirect discrimination, because care-less cultures – cultures which do not acknowledge that people will need to give and receive care at some point over the life course - are anti-women and anti-care. These cultures are built on the rational economic actor

model of the citizen, and the culture in higher education, under new managerialism, has a growing focus on measured performance regardless of care costs. Lynch (2008) argues that the care-less view becomes the norm as one moves up in seniority in higher education, as the culture fosters a “24/7” availability for paid work, with only those who fit into this care-less model advancing to higher positions, thus excluding primary carers, the majority of whom are women. (Cf. Morley 2013:7)

### **BRUNO KESSLER FOUNDATION, ITALY (FBK):**

The interviews that have been conducted provide evidence for the claim that the care ceiling is an element that disadvantages women simply by it not being taken into account in the evaluation process. Only one committee member recognized that the number of publications of a female candidate should be considered in relation to the number of children she has. The other interviewees either said (a) that women exclude themselves by opting for their families rather than for their careers, or they maintained (b) that positively considering the years of motherhood of a female candidate is tantamount to discriminating against women who do not have children:

*(a) “As I see it, until now women exclude themselves. Women tend to choose an easier way rather than being discriminated against in academia. There are less women than men already at the beginning (15% in computer engineering) and therefore less as well at high levels. Half of the women who start in computer engineering are not motivated enough to take on this demanding job, and many believe that they would have to give up their families if they remained in science and engineering. True, society makes it difficult to do research and take care of a family at the same time... That is difficult, but it is not impossible. However, when offered the opportunity to leave research and do something else, women are usually more likely to accept than men – more likely, that is, to choose the easier way.” (committee member, female)*

*(b) “Evaluation policies that credit extra articles to mothers are absurd! At the end you have to evaluate the outcome, not the number... What are we supposed to do? Credit an extra article to someone because she has been on maternity leave? These ideas are painful. If you have two candidates, one male and one female, with an equal number of publications – that does not automatically mean that they are on a par: it is the impact factor that counts, not the number of articles. Maybe there’s a female who publishes a great article that is worth much more than the other – maternity or not. What has to be evaluated is the quality of the articles. Maternity leaves should not be considered at all, they should not influence the evaluation either positively or negatively. Maternity should not be considered a prize. Otherwise we would penalize women who don’t have children. In short, if you tell me: I am a female, I have five children etc. I say, what do you want? That I credit you an extra (fictitious) article for each child you have? And the*

*female who does not have children? She is disadvantaged twice over!” (committee member, head of unit, male).*

Interestingly, this committee member compared childless women to women with children, and suggested that women without children would be disadvantaged if maternity was acknowledged in research output. The fact that this male committee member did not consider that male candidates without children also would be disadvantaged, or that male candidates with children would be involved in caring activities as well, suggests the persistence of traditional gender roles in Italy (as in Ireland and Turkey).

### **ISTANBUL TECHNICAL UNIVERSITY, TURKEY (ITU):**

In her experiences that she narrates, Güneş says the following:

*“My motherhood comes first. I spend time with my children first. I have two children. I am a bad researcher. I became an associate professor, after 10 years I got an assistant professor position. I always give priority to my children. I admire female researchers who have successful careers. I could not become one of them”. (Güneş, female, position)*

Güneş’s story sharply illustrates how child care conflicts with career progression. As Clark and Hill (2010) describe that the ideal researcher is perceived to be unmarried and childless, Güneş’s remark shows regret for not having accumulated enough capital due to her childcare responsibilities. She further adds that having a child does not affect the careers of male researchers.

*“Household responsibilities and child caring might be obstacles for a female researcher’s career. The jury members cannot help women but their husbands can help. Husbands need to have training in this regard. The only thing that jury members can do is to understand when there is a career break due to childbirth, and this should be treated differently from a male candidate’s career break for which no reason is given.” (Irmak, female, position)*

In Irmak’s view the obstacles for women are constructed in gendered terms. However she differentiates jury members from those who could indeed help their wives to successfully continue their careers. However, jury members do have a responsibility, since giving birth is a serious moment in life and should not be simply considered as a “career break”. If they are treated just like career breaks by male candidates, then this highlights the operation of patriarchal domination within the academy. Here, maternity appears as an intersecting factor enhancing women’s subordination, due to their lack of opportunities to accumulate forms of capital within the academy.

From a masculinist perspective, Ateş introduces a different viewpoint regarding motherhood and female academics in the workplace:

*“If I see a career break due to maternity leave in a female candidate’s CV, then this makes no difference for me. Why should we as jury members discriminate women because of such a career break? We are the voice of the state. We do not have any concern for earning money. If I was a boss in the private sector, I would definitely discriminate against women. But, in academia, I do not have a reason to do so. In fact, they are in an advantaged position in academia. There are two women I know who graduated from the university at the same year as I did but became professor earlier than me. Why? Because they do not leave academia for a while to complete their military service. Why you do not talk about this? Are we complaining? Why you do not talk about the advantages you have?”*

Ateş’s narrative focuses on the obstacles posed to men accumulating capital by compulsory military service. At this point, childbirth is likened to military service in the way they cause certain career breaks. However, the period of military service is limited, unlike maternity, which creates a lasting care relationship, and this caring role typically falls to women.

Ateş comes up with a significant perception of the academy when he says that it is a women-friendly space rather than the private sector which often discriminates against women. His narrative, however, idealizes the role of the state in determining gendered relations within the academy, by emphasizing its “egalitarian” nature in terms of gender relations. This can be an overestimation and wishful thinking, when compared to the narratives of women who claim that they have been subordinated in the academy. All in all, Ateş comes up with constituting a unique type of masculinity, which idealizes the role of the patriarchal state apparatus, claims a legitimate basis for women’s oppression by what he calls the “private sector” in contradistinction to the state and by attempting to suggest a narrative of victimization, which would equate men’s subordination to that of women’s.

### **UNIVERSITY OF LIMERICK, IRELAND (UL)**

In the University of Limerick, there was no evidence that male participants understood the care ceiling, with the exception of mentioning maternity as a limiting factor for female academic progression. However, many female participants also mentioned maternity as the reason women are less successful in reaching senior positions in science and technology in academia.

*“Well it depends if the woman goes out on maternity leave for a few years, how can she keep her research as strong as a man who has been, had more time to do research? It would just be one point but that’s just, that’s nature, you can’t really change that. I think that’s one of the main things,” (Shannon, Human Resources).*

However, it was also suggested that the culture in the university discourages women from acknowledging their maternity, as if so doing implies they are not committed academics.

*“I know women in my area, they don’t talk about their children, you know it’s half of your life but if you bring it up over coffee - my goodness it’s seen as a weakness you know, I just think that’s a bit much. And then you have, I was really shocked when one lady said to me two weeks ago, she asked me how the kids were and before I answered she said ‘oh they don’t see enough of you I suppose’. And obviously that was her judgement...and so she said it again. It was a brag, she said it in a kind of a bragging way, that it’s a badge of honour that your kids don’t see you. I just thought ‘how sad?’. So I never answered because I didn’t want to go down that route with her.” (Melissa, Academic).*

It is evident in Melissa’s account that the care-less person is becoming the ‘norm’ for academics in the University, to the extent that some women are boastful about spending so much time on their careers, that they don’t see their children. It was also acknowledged that the system of promotions within the university contributes to the long-hours culture, by measuring output, and rewarding those who work 24/7.

*“The system we have at the moment, because we have this funnel, you are not judging how much people do in the 39 nine hour week. You are not judging the quality of what they do within in the 39 hour week, you are judging what they do, twenty-four seven. And some people, more so women than men, have less time to devote twenty-four seven” (Patricia, Academic).*

This is evidence of the care-ceiling preventing women working the same number of hours and having the same level of output as their male colleagues. When selection and promotion competitions only acknowledge output without factoring care, this creates gender inequality, and only allows those who are care-less to progress in the academy.

### **RWTH AACHEN UNIVERSITY, GERMANY (RWTH)**

The female professors had different opinions when asked whether the criteria for scientific performance imply a gender bias. However, they agree that women researchers with children are facing disadvantages if they do not receive sufficient support with childcare. This support would be necessary in order to give them the time adequately to conduct research and meet the mobility requirements.

*“I think they [the criteria] are objective. If a woman is disadvantaged it has nothing to do with the criteria but with society itself – for example, if a woman has a family and children, does she get help and support so that she has sufficient time to work? Help in the family or from society,*

*this is the issue, not the selection criteria as such. I think they are fair, and this has nothing to do with gender. This is more about society, as if it is expected that a mother has more to do with her children and the family when the children are small.” (female professor, successful candidate, Mathematics)*

This woman demonstrates the gender bias inherent in ‘objective criteria’. Without sufficient childcare support, female researchers with children are clearly disadvantaged, particularly as performance in academia is evaluated in relation to age. The relationship between age and output is an important factor when women are compared to men of the same age (who may also have children).

*„Yes, unfortunately, this has a great value. I think it is not fair. I myself have written a comparative review of three candidates applying for a professorship, two men and a woman. The woman was the oldest one, but she also had three children. And if you compared her performances to that of the men just like that, you would have to admit that she did not achieve as much as they did. I decided that she gets 18 months extra for every child, and that made her younger in the process. I counted beforehand how much is needed, and it really worked. Well, you could not place her at first position with a good conscience, but she was at second place and in the end, she got the professorship, because the first candidate declined. I am still really happy about this.” (female professor, Engineering)*

At RWTH no formal rules exist to take this social reality into account. Most of the interviewees share the opinion that the current working culture is not family-friendly as yet, as it does not accept the limited availability of researchers with caring responsibilities. However, it is not only the care ceiling that constitutes a disadvantage for women with children. In dual career partnerships women seem to be more supportive of their partner’s careers, as the following comment by an emeritus professor shows:

*“We had the case of a really good female applicant, she was not from x [city far away from Aachen], but when we called her she said that because her husband, who is not a professor there but became a leading assistant during the GDR regime, would not find a job here and that therefore she could not leave. These are things that you have to try to make visible beforehand, or you will end up having a lot of work with this.” (Retired professor, Computer Science)*

### **SOUTH-WEST UNIVERSITY “NEOFIT RILSKI”, BULGARIA (SWU)**

Interviewees comment that generally the present situation is quite difficult both for men and women and for none of them it is easy to achieve a balance between work and family life.

*“In our present and so dynamic times, and especially in the course of this common drive to get maximum results in the least time possible, everything is based on the assumption that a person should be available 24 hours a day, 7 days a week, 365 days a year. It’s difficult even for men! If someone wants to have a personal life, family, children .... it’s difficult for men, too. Especially, when a man is strongly engaged with his family. But as a whole, the present work model does not take the family aspect of a person’s life into account! And this is terrible for both men and women, ... i.e. this appeal: ‘you should be the best’ which means that you are not supposed to have a personal life. And this is awful for someone who chooses to follow!” (Assoc. Prof. Dr., Computer Science, male)*

*“It’s not possible to keep the balance between work and family for very long! My answer is definitely NOT! My daughter learned to read alone, because there was nobody to help her, to read stories to her! I was working on my dissertation, and my wife [also a researcher] was preparing for promotion to an Associate Professor position. We are happy that our daughter has grown up earlier than her coevals. She sometimes looks at us smiling and says: „No more dissertations at our home!”. So this career model, which expects and demands fast and best results, which is typical for our whole present life, deprives people of their personal lives! And here the gender does not matter! When a woman has not married because of her career, and a man has done the same – where’s the difference?! There is no difference on the final account! The better option is a good family with a good balance between work and personal life ... but most often, unfortunately, it is impossible. A real scientist cannot come home at the evening, close the door and forget about his work ...” (Assoc. Prof. Dr., Computer Science, male)*

The present as well as the past rules, procedures and criteria are gender-neutral and most applicants are treated equally although exceptions exist for both. To some extent, this culture of equality may partly be due to the former communist policy (1944-1989) of promoting the “emancipation of women;” at the time, there were quotas in place as a measure to achieve equal treatment and support women. Nevertheless, all the interviewees confirm that women scientists face much more difficulties than men because of the difference between the two genders. For some, this difference is socially constructed, but for other, it is a biological given and predetermines the different roles in work and family. On the whole, caring and household duties of women cause major difficulties which prevent female researchers from a normal career advancement.

*“The work conditions and the evaluation criteria are equal although women should spare time for their families and children.” (Assoc. Prof. Dr., Geography and Ecology, female)*

*“I think that it does not matter whether you are a man or a woman when it comes to overcoming the difficulties in your scientific career. In our university there are no barriers. The*

*fact that the women researchers lag behind their career advancement is due to their other duties – the family, children, etc. But in fact there are no other legal or administrative barriers.” (Assist. Prof. Dr., Mechanical Engineering, female)*

*“There is no difference between men and women regarding the evaluation criteria and their application. But definitely, there is a gender difference in some attitudes and it derives from the deep. It exists, not particularly in our scientific domains but in our whole society, in our whole live. The things are much more complicated and I don’t think that we’ll clarify them in an interview like this. But yes, it exists but on the level of our whole patriarchal society and everyone knows it even though the situation is changing.” (Assist. Prof., Electrical and Electronic Engineering, female)*

But how can these difficulties be overcome? Responses of men and women are quite interesting regarding their different attitudes. Answers by male respondents tended to be somewhat indifferent, while women’s comments were quite emotional.

*“I don’t know how a woman researcher could overcome the difficulties in her career progression. I have no idea.” (Assoc. Prof. Dr., Informatics and Computer Sciences, male)*

*“I have never thought about this gender aspect, but your question about the caring duties of women and their impact on the career advancement is quite reasonable. So, I’m not prepared to discuss this and be helpful by suggesting changes favouring women scientists.” (Prof. DcS, Former Vice-Rector for Research and Chairman of the University’s Selection Committee, male)*

*“How do we cope with it? ... well, putting 5 times more efforts!!!” (Assist. Prof. Dr., Geography and Ecology, female)*

Most of all, support from the family is very important for the success of a woman researcher. There are some ideas about measures to be introduced by the university in order to support women in their career pursuits, but they would hardly be sufficient to make excellent scientific achievement possible.

*“I don’t know ... to be frank, I don’t think that the evaluation criteria are different or being differently applied to male and female scientists. From my standpoint, they shouldn’t be different. I don’t know! I think that they should be equal and it’s up to a woman researcher to arrange this with her family! I mean, when you receive understanding and support from your family then you could arrange time to work on your research projects without experiencing any difficulties.” (Assist. Prof. Dr., Mathematics, female)*



*“For example, the university could provide some extra funds for female researchers with children, enabling them to hire someone who could take care of the children for certain time. It could have a positive effect indeed.” (Assoc. Prof. Dr., Geography and Ecology, female)*

*“There could be some measures to ease the conditions for female scientists: longer periods for their PhD or post-doctoral studies, etc. But in my opinion, it’s not possible to impose some official procedure, which ... how to say ... requires someone else to write your articles, or complete your research ... – man or woman you yourself should do that! The reason which has prevented you from accomplishing your research work, from scientific point of view, is uninteresting. Whether you failed because you didn’t have enough time, or you did not succeed because you were incapable to do it ... the final result is obvious – you didn’t make it. The reason doesn’t matter. Unfortunately, this is a painful truth! For instance, I think that it’s quite normal to allow female researchers longer time or some other type of support. But how to make the evaluation procedure itself gender-relevant – one for men, and another one for women? It won’t be reasonable to differentiate it. And it’ll be another kind of discrimination.” (Assoc. Prof. Dr., Informatics, male)*

## **COUNTRY COMPARISONS**

In Italy, the care ceiling exists, and the view was expressed that women who choose to care for their families choose not to have scientific careers, maintaining the polarization of paid work and care. Another view was that it would be absurd to factor in maternity when considering academic output. The cultural and social construction of women as primary carers makes women even less likely to possess ‘familiar’ qualities and be considered ‘safe’ according to local logics.

Similarly, in Turkey, there is a polarization of paid work and care, with a typical gendered division of labour existing in the family. One participant likened military service to maternity, thereby attempting to neutralize the effect of maternity on women’s careers.

The care ceiling also exists in Ireland, with acknowledgement by HR personnel and academics themselves that women cannot achieve the same academic output if they have maternity and caring responsibilities, with anecdotal evidence of the primacy of career over caring responsibility, a culture of long hours, and the polarization of paid work and care.

The care ceiling exists in Germany as well, with female academics confirming that the selection criteria do not consider maternity or caring responsibilities, thereby disadvantaging women who have caring responsibilities. It was further found that women in dual earner relationships prioritise their partners’ scientific careers’ over their own. There is a suggestion that age intersects with gender in Germany to

disadvantage women who have children, because the expectation is that academics have achieved a certain professional standard at a certain age.

#### 5.4 ACKNOWLEDGEMENT IN THE SCIENTIFIC COMMUNITY THROUGH ATTRIBUTION AND RECOGNITION PROCESSES

Access to and participation in the scientific field are not only based on formal criteria such as scientific credentials and manifestation of individual will. It rather depends on processes of attribution and recognition of the gatekeepers in the field. Researchers who want to attain a higher position have to make their scientific performance socially relevant in order to become recognized and acknowledged by others.

Thus, acknowledgement in the scientific community is based on social and symbolic capital; a decisive characteristic of social capital is that it is based on mutual cognition and recognition (Bourdieu 1980; 1986, 1998). Through these processes it acquires symbolic character and is transformed into symbolic capital. Social divisions are legitimised with the help of symbolic capital.

Symbolic capital is the resources available to a person on the basis of honour, prestige and recognition. In order to acquire effective social capital, objective differences between persons, groups or classes have to be transformed into symbolic differences and classifications that make symbolic recognition and distinction possible. "Symbolic capital... is nothing other than capital, in whatever form, when perceived by an agent endowed with categories of perception arising from the internalization (embodiment) of the structure of its distribution, i.e. when it is known and recognised as 'self evident'" (Bourdieu, 1985:204). As symbolic capital, distinctions are "the product of the *internalization of the structures to which they are applied*" (op cit:204). Symbolic capital defines what forms and uses of capital are recognised as legitimate bases of social positions in a given field. Symbolic capital designates the effects of any form of capital when people do not perceive them as such (Waquant, 2006).

Scientific reputation is a synonym for the acknowledgement of a person in the scientific community and is one of the decisive selection criteria in selection committees for professorships. Scientific reputation manifests itself through *visibility* of a person in the scientific community. Scientists who are visible have publications in highly ranked journals; have won prizes with high credibility; are keynote speakers on major conferences – national as well as international.

Symbolic violence in this context refers to the advantage that persons and groups exert against others because of their higher status in the social structure of the field. As a result of their advantage,

individuals in higher positions within the field are able to dominate others lower down in the hierarchy and keep them from having access to the same opportunities and privileges.

### **BRUNO KESSLER FOUNDATION, ITALY (FBK):**

Recognition is a very important element for all committee members and candidates. Recognition and acknowledgement become even more important for persons who belong to minorities in a given social context, in this case, Information Technology (IT). Recognition for a researcher is directly connected to his or her visibility in the scientific community. Interviewees agreed that recognition in the academic world is primarily expressed through the participation as a speaker at important conferences, citation indices, research grants, and the participation in international projects.

*“Today it is crucial to be dedicated to management. If you want to be recognized as a researcher you must also be a good manager. ... The economic crisis today requires that a good researcher is also able to find the funding to finance his research.” (Successful candidate, male)*

In the interviews it has been repeatedly stressed that gaining recognition within the scientific community requires pronounced communicative abilities and networking skills:

*“To be an excellent researcher today means to have a true impact on the scientific community. This is the first thing required by all selection committees. For example when I attend conferences and see successful researchers, who are then also called to other conferences, those are not necessarily the best scientists, but they are the ones who have great communication skills. Usually it is those people who get called on to lead a group. In the last committees and selection interviews I realized that the questions were less technical but more aimed at understanding how you are as a person, what you are like as the member of a research group.” (Successful candidate, male)*

Recognition is always connected to a role and the role is directly linked to the cultural background. A head of unit, trying to explain the gender gap, commented as follows on the difficulty to recognize women in particular roles which, traditionally, are male-dominated:

*“Someone called “Professor” Roberto and “Doctor” Rita, although Rita is a full professor and Roberto is an associate professor. There is experimental evidence indicating that it is difficult, due to the historical baggage that we carry with us, to recognize a woman in a given role. For example, if you see someone at a meeting sitting at the head of the table: if it is a man he is the leader, if it is a woman you think she’s is something else. It is difficult to get rid of these culturally entrenched ideas and prejudices.” (Committee member, head of research unit, male)*

### **ISTANBUL TECHNICAL UNIVERSITY, TURKEY (ITU):**

According to Bourdieu, economic capital is likely to be converted into cultural or symbolic capital. By acquiring financial resources, one can exchange money by getting a higher social status in society.

Regarding the relation between forms of capital, Rüzgar says:

*“Only researchers coming from high-class families are applying for jobs in academia, but academia is not a ‘high -class families’ club’. There are very clever researchers outside who cannot join academia because academia is not the best place to make money.”*

The image of academia that it is not the place to “earn money” provides hints about its members’ class privileges. Further, the privileged members of academia are inclined to select individuals similar to their class habitus. They prefer not to transfer particular symbolic capital to researchers who belong to other social classes, especially when they are lower in the hierarchy.

Yaprak provides a much more sophisticated narration and states the following:

*“Living in Istanbul is one of the main obstacles that poses a disadvantage to me to progress in my career. Sometimes jury members never consider such difficulties. Traffic, financial problems ... Such problems should be considered in hiring processes. I live in Beylikduzu, I spend 4 hours to go to school from home and to return back to my home. When I was in Europe for my 6-months research stay, I reached my office from my home in 10 minutes. Now, it is impossible for me to study at home after a 2-hours journey! Istanbul is problematic in various ways – traffic, rental expenses... We have limited resources compared to European universities”.*

Yaprak experiences the difficulty of living in an urban setting which does not provide her with any privileges during her academic career. It is significant to note that besides the distance of her neighbourhood to university, Beylikduzu is known to be a district of lower middle class inhabitants. Unlike upper class neighbourhoods where residents enjoy all sorts of capital, Yaprak fails to accumulate capital due to her neighbourhood, which does not provide her with symbolic capital due to its socio-economic status. The difficulties that Yaprak experiences are described in similar terms by Rüzgar as well:

*“Turkish academia needs a revision in terms of financial resources. I want to be in a place where researchers do not have to deal with economic problems. Imagine that you are working on a research problem and you are worrying about how to earn money for your living at the same time. If only three people are applying to an open position, this is very insulting for an institution but people do not apply for the above reasons”.*

Rüzgar draws attention to the lack of economic capital in further pursuing an academic career, and he points to economic capital as one of the determining factors in the academic qualification process. And what's more, it seems that he does not possess any other sort of capital other than symbolic capital, to replace and convert into economic capital for his career. For many, the academy sets forth challenges not only in terms of a shortage of capital, but also in the convergence of shortages of different forms of capital at the same time.

### **UNIVERSITY OF LIMERICK, IRELAND (UL)**

In focus groups and interviews there was little evidence of specific attribution and recognition processes. That excellence involves research, teaching and service, and is based on a minimum level of qualifications and experience is widely understood.

However, women suggested that it is more difficult for women to have their contribution recognised, and this is especially difficult in science and engineering.

*"I mean women will say that. That you have to work longer and harder maybe in the industry to prove yourself to be better than a man. But I can't, well I don't know how they do it here, but certainly men got promoted here who certainly were nowhere near [as good as] shall we say the women" (Dawn, Academic)*

It was also suggested that men and women are regarded differently, and their contributions at interviews are interpreted differently attributing greater recognition to male contributions.

*"Why do you think men are more successful than women in selection and promotion competitions? Is it a language thing? If a woman says something and a man says the very same thing, [it's] the interpretation. I've heard this before, the interpretation of it is that she's whinging and he's actually boasting. You know so it's not what the woman says or what the man says, it's the fact that its coming [from a man or a woman]. It's genderised [sic] that the person listening to it will automatically associate a positive connotation to whatever the man says and a less positive, less, just put it that way, to what a woman says" (Melissa, Academic)*

### **RWTH AACHEN UNIVERSITY, GERMANY (RWTH)**

One mechanism to put oneself on the map is to do something excellent that the gatekeepers of the scientific community – the 'old boys' – identify as an outstanding achievement (recognition). However, the acknowledgement is not connected to scientific achievement as such but also to the person behind it (attribution).

*"To get selected with a paper is not that difficult, at least not in our discipline. But to give a central presentation, this is open to a few scientists only. When there is, for example, a*

*conference with 1000 participants, a maximum of ten of them give a longer presentation. It is of course an award to arrive there. But it also depends on the reputation. On the power a person has in the community. It is not always a strictly scientific reputation.” (female professor, Engineering)*

In order for a scientific achievement to be acknowledged by the gatekeepers, a young researcher has to apply certain strategies. However, it seems to be the case that it is the responsibility of the young researcher to make himself/herself visible. The role of mentors who help with getting access to the gatekeepers is rarely mentioned or stressed in the interviews. Nevertheless, to build up networks is a necessary strategy in order to become visible. Specific strategies were reported in the interviews, and that it is important to have a touch for networking activities.

*“I always advise people to look for a doctoral (PhD) supervisor who is famous; that plays a crucial role. And that is one of the essential factors. The second one could be ... well, in principle, the reviewer one chooses – that is a very simple mechanism – however, it is one that plays an important role for myself, if someone writes a review or letter of recommendation about somebody and I know the reviewer who writes that and I think ... well I trust him or ... then it has a higher weight than when it comes from someone I don’t know. As I just don’t know how to assess it. That is the mechanism. And yes, among doctoral supervisors, there are by all means people who are very skilled in placing their people. They are also relatively ruthless in placing their own people. I think in other respects networks don’t play such an important role. I don’t have the feeling. But then again at some point the line is overstepped and it’s getting annoying.” (male professor, successful candidate, Computer Science)*

The gatekeepers have their position in the field not only on the basis of their scientific achievement, but also due to their power, which is founded on their scientific reputation and works as a self-reinforcing mechanism, and their networks. They have the power to make other researchers visible in the scientific community.

*“There are people who were at the right place at the right time. In our community, unfortunately, a lot is determined by older persons. It is hard to break down this structure. There is a squad of older men, to put it frankly, who are in a position of power. For sure, they have accomplished a lot once; this is nothing to be discussed. But in the community, there are always the same people that get invited to conferences. That’s a bit of a problem. If you want to get into that as a younger person, you have to try to get to know the older members; there is no way around it, and to make a good impression, to promote yourself by good work, to become visible. Of course this is no guarantee that it works, but this is what you have to do to make it work.” (female professor, engineering)*

Furthermore, the gatekeepers also use their networks in order to find suitable candidates for the free positions (at the professorship level) in their departments. They use them as a strategy to get the “right” people and to avoid problems afterwards; for example that the selected candidate reject his/her application or is not engaged enough in the department etc.

*“Computer science is still a comparatively manageable subject, in regard to quantity, so that a lot of people that already have some experience know what is going on, and there is a lot of internal communication between computer scientists, so you know who represents what. And you also know of the one or other person who could be won and that you could try it there. And sometimes you also know, you could clarify it by phone, that certain people are not available.”*  
(retired professor, computer science)

Recognition is connected to the person as a whole and not only to his/her scientific achievements. Furthermore, recognition is awarded by the gatekeepers (still mainly ‘the old boys’) in the scientific community who do not do this on a neutral basis but following their own priorities and strategies. For young researchers who want to become visible, this means that they move in a field of power and self-presentation. Especially the interviewed women emphasize that this is a cultural arena where it is more difficult for women to position themselves and become visible. This has effects on the evaluation of their scientific achievements in selection committees: when they are not visible, they cannot be recognised as researchers with outstanding scientific achievements.

*“What is really a deterrent for women in my opinion is that still there is the need for you to distinguish yourself. I think the issues that are only based on professional skills are very attractive for women – the honest work. But when it comes to this power issue, which is present today in the faculties and everywhere, in the communities, then it is really absurd. I think a lot of women are deterred by it, also disgusted. I myself did not grow up doing that, but one has to admit that one has to do it to win out over the others.”* (female professor, engineering)

### **SOUTH-WEST UNIVERSITY “NEOFIT RILSKI”, BULGARIA (SWU)**

The interviewed researchers understand “acknowledgement” mainly as “international visibility”. For most of them visibility means the total amount of citations, i.e. the citation index of a scientist. “International” (“western”) appears to be very important in acknowledgement mainly due to the fact that citizens (involving scientists) from Bulgaria, during the totalitarian period (1944-1989), were strongly restricted in communicating and collaborating internationally, especially with “western” countries. This policy created domestic “friendly” circles and communities in academia imposing a number of non-scientific criteria in evaluation, acknowledgement and recognition of researchers’ achievements. Lots of such negative practices have continued to exist during the transition period

(1989-2013). That's way the majority of interviewees call for the involvement of "international" aspects in various forms as a guarantee of objective, impartial and unbiased evaluation and recognition.

Some of the interviewees have a broader understanding of acknowledgement/visibility, generated by publications abroad (books, articles, papers at conferences, interviews in media, etc.), participation in international projects and events (not only scientific), international contacts, i.e. the scope of a researcher's collaboration with colleagues and other stakeholders from abroad outside science (industry, for instance).

*"A researcher should be internationally visible in his/her scientific field. ... If they cite you, it means you are good. ... In my view, books and articles in western journals as well as participation in international projects are also important." (Assoc. Prof. Dr., male)*

*"It is the visibility of the researcher. For me visibility means when researcher's results are cited not only by his colleagues that belong to his/her specific research circle, but on an international level. In fact, the citations are only one of the proofs of the quality of his/her research achievements. I.e. if you have something to say and the others have understood it, and think that it's important and valuable, they will cite it, especially if your work has been published in an international journal or presented at a conference abroad. This is how it happens abroad while in Bulgaria it's still rare." (Assoc. Prof. Dr., female)*

*"Since the international visibility of a researcher is strongly prioritized ... citations are given the biggest weightings ... I think that publicly disseminated opinions by acknowledged foreign scientists about a researcher tell much more about his/her international visibility and recognition than just pointing out the number of his/her citations. This kind of international recognition is not taken into account in the present evaluation system." (Chief. Assist. Prof. Dr., female )*

Acknowledgement as a researcher in the scientific community requires long years of systematic work and self-development. So, time is very important for attaining significant achievements. In this respect, women are less privileged than men.

*"You need to start early enough. When a person wants to make a scientific career ... men can begin while they are still students and continue without interruption for many years. For women it's different. They are advancing more slowly, maybe because men are usually more privileged. And women, in addition, have this significant motherhood role in their family which makes them lose a certain time. Women, during maternity leave, not only lose time, but to some extent get out of touch with what's going on in their field. I am judging from myself, from*



*my own career. I obtained my PhD degree quite late, and at the beginning, when I applied for an academic position – they were looking for a male candidate. Moreover, at those times, a [communist] party membership was a must. And then ... there are my three childcare periods.” (Assoc. Prof. Dr., female)*

*“I think that there is no difference between men and women while struggling with the difficulties in a scientific career. In our university there is no such difficulty or formal barriers. If women are falling behind in their career advancement compared to their age group, it is because of other engagements they are usually involved – household, children, etc., but there is no legal or other procedural barriers.” (Chief Assist. Prof. Dr. Eng., female)*

*“It’s very difficult to say how a woman can get acknowledged in the scientific community. Only if she deprives her family and children of her time and care, ... because making a career requires extreme amounts of time, strengths, resources, and, in most cases, it requires some kind of personal compromise. It has happened to me. At a certain moment you should decide whether you are going to make a career, or devote yourself to the family. In my case, I decided to make a career instead of dedicating myself completely to my family, my husband, etc.” (Assoc. Prof. Dr. Eng., female)*

## **COUNTRY COMPARISON**

The question of who is more likely to be acknowledged – and, concomitantly, visible – in the scientific community is based on processes of recognition and attribution. Scientific achievement is necessary, but other factors are also important in order to become acknowledged by the scientific community. Accordingly, the statements of the interviewed candidates as well as the members of the selection committees of FBK (Italy), UL (Ireland) and RWTH (Germany) refer to the attribution of personal qualities to the candidates. These qualities include communicative abilities, management skills, and networking skills (cf. FBK and RWTH). In order to become visible and therefore successful in the scientific community, young researchers have to acquire these skills, which are crucial properties of the scientific field. Here, gender bias occurs particularly through gender-stereotyped attribution and recognition processes. As one committee member at FBK points out, people associate roles with persons of a specific gender. This also takes place in academia where the position of the professor is more easily associated with a man than with a woman. A female academic at UL detected a gender-biased process in the way that men and women were judged differently for the same behaviours. The behaviours are judged rather negatively in the case of women and rather positively in the case of men. Both believe that these specific kinds of attribution and recognition are crucial exclusion mechanisms and explanations for the underrepresentation of women in leading positions in science.

Another aspect is mentioned by ITU in the context of recognition and attribution processes. Here, an exclusion mechanism on the basis of belonging to a social class was observed that refers to cooptation processes in the scientific field. However, cooptation is also an important exclusion mechanism against female scientists. Thus, understanding the social psychology behind attribution and recognition processes in the scientific field is particularly important when it comes to the reciprocal effect between, on the one hand, social conditions and role patterns for women and men and, on the other hand, the attribution of "appropriate" psychological qualities to oneself and others. These qualities are decisive because scientific achievements are always connected with a person with a specific gender. In contrast, at SWU other weightings are made with regard to acknowledgement. Here acknowledgement is more or less understood as international (= western) visibility and is evidenced by the total amount of citations, especially in non-Eastern European journals and presentations at international conferences. Furthermore, at SWU, the factor of time is considered important for the process of becoming visible in the scientific community. Here, a gender bias can be recognised: the interviewed scientists, both women and men, stress the socially ascribed roles of child and family carer to women with the consequence that women "lose time" and fall out of touch with their scientific community, which has a detrimental effect on their career progression. Only women who get support from their families, so the widespread opinion, have the equal opportunities to advance their careers as men do (cf. 5.3.2 "care ceiling"). In summary, it is worth noting that researchers from Western European research institutions consider specific 'soft' and networking skills as prerequisites for becoming visible in the scientific field (next to a certain level of scientific achievement), whereas in the (South-)Eastern European countries, social factors such as gender and class are emphasized as decisive criteria for acknowledgement in the scientific community.

## 5.5 INNOVATION, CREATIVITY, 'SOMETHING MORE'— SOFT SKILLS

Under the title 'soft skills' we subsume all capacities and competences of a job candidate that are not directly connected to her/his specific scientific and technical skills but still relevant to the assessment of the candidate's qualification. Besides the capacity to think in creative and innovative ways, these include social and communicative competences such as the ability to work in a team and to communicate one's ideas efficiently, as well as managerial skills and executive capacities in the fields of, for instance, strategic vision, decision making and negotiation. As depicted in the literature review soft skills are not only personal or individual traits. Soft skills are competences that can differ from person to person and they are not innate. Soft skills are products of socialization. They can be improved by means of training.

The possession of soft skills such as innovation capability, creativity and the so called "something more" soft skills that go beyond the usually mentioned soft skills (communication and presentation skills etc.) is embodied cultural capital. It is the consciously acquired and passively inherited properties of one's

self, while the institutional recognition of these skills is symbolic capital. These skills are defined and recognised as legitimate bases of social positions in a given field. According to Bourdieu's framework, this is cultural capital because the mentioned extraordinary skills are based on certain forms of knowledge, skills, and education. They bring advantages to scientists and give them higher status in the field.

### **BRUNO KESSLER FOUNDATION, ITALY (FBK):**

In the analysis of the interviews with the gatekeepers, soft skills, the 'something more', turned out to be a recurring topic. Soft skills were often linked to excellence and taken to be an important ingredient thereof:

*"Soft skills play a fundamental and integral role in the work of a researcher. Nowadays, what we are looking for is often an innovator rather than a (traditional) researcher. In order to be innovative it is not sufficient to bring heavy scientific luggage. One also has to have soft skills. In order to appreciate and to create value from different human resources we should actually put a focus on soft skills. The universities do not offer training in cross- or transversal competences. (In private companies, on the other hand, much more attention is paid to soft skills). If someone wants to become an excellent innovator they have to develop their soft skills in parallel to their technical and scientific competences." (Committee member, head of research department, male)*

Apart from the general relevance of soft skills for the evaluation of candidates, another recurring theme of the interviews was the claim that women have more pronounced empathic capacities than men and that this explains the (alleged) fact that women are stronger in the field of soft skills. With regard to the following quotation, it must be emphasized that the interviewed committee member used a highly gendered vocabulary. He talked of 'researchers' and 'women', never of female researchers. In Italian, the language in which the interview has been conducted, there is a clear cut grammatical difference that distinguishes the sexes:

*"Women have more pronounced soft skills than men. These skills which women have culturally internalized can be the basis for introducing diversity into a research group. Women are usually more capable in negotiation tasks and have an empathy-based approach ... All these elements are important in a research centre. Women are certainly more meticulous and better organized than men." (Committee member, head of research centre, male)*

Leaving aside the fact that women's pronounced socio-relational and empathic capacities have been a topos in the history of western thought since antiquity, today the natural sciences suggest that this behavioural phenomenon has a biological basis. There are many experimental studies of cognitive,

behavioural and emotional differences between the sexes which suggest that in comparison to men, on average, women possess more pronounced empathic and socio-relational capacities. An analysis which is particularly relevant to our purposes was published by a group of researchers based at the University Milano-Bicocca in the journal *BMC Neuroscience* in 2008. In their experiment the group observed, by means of fMRI, the brain activity of 24 men and women while they were looking at images depicting persons and landscapes. The research group came to the conclusion that there are significant differences with respect to the activation of emotive brain regions in women and men. The study reveals that women react more quickly to pictures displaying social situations and thus suggests that, in comparison to men, women are physiologically predisposed to take greater interest in other persons. The analysis provides evidence that sex-related differences in the make-up of neural circuits responsible for empathic capacities do exist [Mado Proverbio et al. 2008].

It must be stressed, however, that the old idea of a 'female nature' in touch with emotions and for that reason constitutionally averse to rational thinking and acting has been an effective ideological instrument to prevent women's participation in science in the past. Appeals to women's more pronounced soft skills are often used to reinforce such stereotypes.

*"In Information Technology (IT) technical competences are fundamental. The development of extraordinary technical competences requires total dedication and commitment. That's how someone becomes a so-called "nerd". Women, however, very often have extra-scientific and extra-technological interests (exhibitions, literature, cooking...) and they occupy themselves with other activities (I have loads of extra-academic things to do). Men, on the other hand, are more apt to be nerds in the sense that after work they come home and switch on the computer and connect to the internet. Men are much more "mono-thematic" and much more oriented towards achieving objectives. The men who work in IT are interested exclusively in IT. Many, for example, don't even do physical exercise at all. I have five PhD-students. Only one of them is a woman and she does many things that don't have much to do with IT (she plays volleyball, for example). But she is also the only one that is a member of a centre of excellence abroad. So she has "the biggest balls of them all" ('ha le palle più grosse di tutti gli altri'). She has her own mind, is very headstrong, less malleable and flexible than the others. The others write code much quicker than her. But she knows lots of things outside IT, things, however, that often do not enter any evaluation of her achievements." (Committee member, professor of IT, female)*

If women have more pronounced soft skills than men, and if soft skills are important for excellence, the immediate problem is as follows: How can soft skills be made 'objective' and measurable, so that they can be recognized and play a part in evaluation? The interviews conducted at FBK provide evidence for the thesis that there is a widespread need for workable criteria concerning soft skills. Thus, most interviewees identified the need to achieve objective and comparable assessments of

personal skills. Different interviewees repeatedly stated that transversal competences, while being important for the proper functioning of research units in general, have to do with the person as a whole, and thus are difficult to evaluate in the limited time of a job interview.

### **ISTANBUL TECHNICAL UNIVERSITY, TURKEY (ITU):**

In terms of the personal qualities, which are important signifiers in the academy for many reasons, Yağmur narrates the following:

*“Above of all the criteria, we have some general rules such as being a good person. A researcher should have good communication skills and should be able to get along well with others. While doing progressive and creative research, one should respect other colleagues. Whenever a researcher from any level is joining our department, we all look for good communication skills since the laboratories are the places that we all use. If a small dispute occurs between people, then we all become discouraged. So, effective communication skills are one of the key elements, of course after the academic requirements that we apply while evaluating the candidates.”*

Yağmur emphasizes the importance of good personal skills, which would have positive impact on the good functioning of the workplace. Personal capital, which is defined on the basis of effective communication skills and adaptability, is a crucial element for a researcher to further his/her career in the academic field. Additionally, according to Irmak, “a researcher needs to be patient, stubborn and honest, should tell the truth and be open to self-critic.” As evident in Irmak’s response, there are differing ways of elaborating the ingredients of the personal capital. Irmak’s emphasis is more on the researchers’ individual potentials, rather than his/her capability to act collectively.

Güneş, on the other hand, links the issue of personal capital to the process of education. Güneş stresses the necessary role that a researcher should fulfil, namely to realize his/her potential to become an adequate educator. She also underscores the need for communication skills and finds it important to develop sincere relations with the students. She contends that hiring criteria should definitely take this particular dimension of personal capital into account.

*“It’s not only publications we are doing here. We are educating students. We are in communication with students. I heard that one professor does not allow students to come to his office, there was a lot of gossip about him. We need to develop our social abilities. We are teachers; we need to know how to communicate. But such abilities are not part of the hiring legislation.”*

Yaprak meanwhile suggests that “Jury members are evaluating characteristics such as communication or leadership but in my opinion, this is not a correct evaluation of a candidate.” For her, “such abilities are just for ‘marketing’ and they only show the appearance, not the ‘inside.’” Yaprak is somewhat sceptical towards the idea of personal capital. Her narration suggests that personal capital can be a decoy in some occasions since it may not be really showing the actual potentials of a researcher. Thus for Yaprak, personal abilities are usually performed in public through the relations of visibility and being seen; therefore it may not even be considered as capital, but a trick. Poyraz, on the other hand, sums up the must-have abilities of a researcher as follows:

*“A researcher needs to be curious. There is no other way. One should always be questioning, be curious about how one can do better. If you are lecturing, then you should follow new methodologies of lecturing. This job is about being curious. If you are not curious, then you can deliver lessons for 29 years in the same way. One should feel concerned about one’s own work. One should be asking oneself: in what ways am I able to improve my work? If you are not asking this, you should leave the university.”*

Yağmur makes a similar remark when she states the following:

*“Scientific excellence means to follow new research directions. One should follow what is newly happening in one’s areas of interest, one needs to learn new techniques, technologies and methodologies in order to achieve scientific excellence. Our departmental goal is to welcome new faculty staff who are open minded and from different backgrounds.”*

Poyraz and Yağmur take a perfectionist stance when they underline the need for progression and self-development during researchers’ academic careers. Poyraz also concentrates on the student-lecturer relations, and they both analyze the role of performance as one of the determining factors for a researcher over a long course of years.

### **UNIVERSITY OF LIMERICK, IRELAND (UL)**

In the data, much was made of the requirement for academics and researchers to possess ‘leadership’, ‘interpersonal’ and ‘collaboration’ skills. However it is suggested that the importance of these skills is often overlooked in the search for ‘academic excellence’.

*“I think leadership is a big thing. And particularly in more senior positions and I think sometimes in the [selection] boards I’ve been on, I think it’s being overlooked a bit as a criteria, criterion on its own and we do see... we have hired in senior professors and you know senior research professors and so on , and a lot of that [assessment] and rightly to an extent you know, goes on their research output, what they’ve done in the past. But I do think that there’s*

*something that needs to be in there about how they can leverage that experience to bring others along with them. So you'll see, you know, different levels of capability around the university in research professors or general professors to expand the breadth of their impact within the university. So some would be very good at building up their own research profile whereas others will have lots of different people working with them and build their [teams'] capabilities to further build the profile and the reputation of the team. And I just wonder is there a place for leadership as a stand-alone[competence] in more senior roles?" (Jill, Human Resources)*

*"You see that requirement (collaboration) in the research roles, because for a lot of them it's project management, because they're managing their own funds and grants. And you'd see then like 'ability to work with industry', not just in a bubble in an office doing their research, they have to engage and bring people with them and have some kind of impact from their research as well, so that it doesn't just sit on a shelf, the value kind of gets out there ... And they have to have the ability to kind of, I suppose, transcend (.). Maybe you know if you are more academic, that you can bring people with you in research or in industry and engage, so you do see that a lot in the criteria for research" (Cynthia, Human Resources).*

### **RWTH AACHEN UNIVERSITY, GERMANY (RWTH)**

The relevance of candidates' soft skills depends on the level of the academic position being offered. From candidates for a full professorship, strong leadership skills are expected, while for candidates for a junior professor position, personality is the salient criterion. In the interviews, several soft skills related attributes were mentioned that can be merged in the construct of the academic personality. This personality consists of attributes such as openness, assertiveness, being a strong communicator; being innovative, engaged, creative, pleasant, etc. Having or projecting this personality, having adequate 'charisma,' can tip the scales for being selected as number one in the selection process. However, there are no formal criteria or procedures to evaluate these attributes in a transparent way. In one department the personality of the candidates was weighted very highly as a selection criterion: the selection committee arranged informal meetings such as common dinners with the candidates in the evening or informal talks with future colleagues in the department. This procedure helped both the selection committee and the candidate to find out whether there was a fit on the cultural and personal levels between the department and the candidate. And this procedure was seen as positive by both parties.

*"We also had applicants that were considered to be among the top scientists in the field worldwide, but we did not invite them, because we came to the conclusion that they are not able to lead a group the way we want due to their personality. It is really not the case that*

*scientists who may be really good individually, but are not able to build a group or lead it, that are not able to give a proper lecture, ... well, they are out of the question.” (male professor, Computer Science)*

Finally, certain soft skills, such as team leadership skills and personal traits such as dedication and willingness to cooperate in the department, are often very important in the decision process for professorships. However, there are no formal criteria at hand to find out whether candidates have these qualifications. Strategies include arranging informal meetings with the candidate and relying on intuition.

*“All the candidates of course say, we do this and we can do that and sing hallelujah and smile; and afterwards, when they got the job and are finally here, they don’t do it. Therefore it is useful to have a feeling for this, to be able probe the substance of these statements in the follow-up talks after the selection interviews.” (retired professor, computer science)*

There is a gender bias with regard to soft skills. But it seems that it is also a generational question. Special Training and mentoring programs help female scientists to learn how to present themselves “in the right way” in selection procedures.

*“On the one hand, women tend to present their achievements as an achievement of the group. Also, they reflect more critically, also when they are presenting themselves. This might result in excellent achievements being qualified with statements such as “We could show this, but one has to see that this and that could be a disadvantage”. This is a sentence a man would never say, he would say something like “We could show this, it has just been published in Science and we are great’.” (female professor, natural sciences)*

*„Interviewer: Thus, wouldn’t you say that women tend to keep a low profile when approaching the important people in the subject? Female professor: Yes of course, sure. Yes, this is obvious. Well, you cannot ignore that completely. Well, I think, most of the women grew up in a certain manner – at least until the final secondary-school examinations, there was this tendency that actually nobody advised them or believed in them to make a big career. I would say that it is just not the case for most women that their parents gave them the idea that they become something super-duper or something like that. I mean, they were not bombarded with the ingredients that make up somebody ... well, self-confidence is maybe the wrong word, let’s say someone of a certain standing.” (female professor, engineering)*

*„Well, if then one is invited to a talk and interview, then, I think, it does not depend on the professional competence, but more on how one is able to sell oneself. Luckily I made the experience that most of the women who ... I mean in selection committees where I was a*



*member ... that they have presented and 'sold' themselves very well. I mean that they gave their talks in a pedagogically attractive way; that most of them acted self-confidently. I think that is very important, and that it may be a problem if a candidate doesn't have a mentor to coach them and tell them what is important, and maybe also to practice such a situation with them, so that they are able to present themselves in a confident manner. Possibly this is something that men can do better than women. This is what I have expected in the first instance, that women find it more difficult to say that "my finding is great, I am proud of it and it is my finding"; and that men do that rather more with regard to the stereotype. But I haven't seen that as confirmed yet in reality. Well, here I can imagine, I made the same experience, I was in x (city in Germany) in a program that was called "Professionalization for Women in Research and Teaching", where we have played role plays, for instance: What is it like to have an interview with the selection committee? How should I prepare myself? What is the important information to tell the selection committee in order to make clear that I am the right one for the job? I think that these programs are very, very useful." (female professor, unsuccessful candidate, Computer Science)*

### **SOUTH-WEST UNIVERSITY "NEOFIT RILSKI", BULGARIA (SWU)**

When the interviewees commented on these kinds of skills, they listed at random a number of qualities which they find important in order to be successful in a scientific career. Some of them are natural talents while others are systematically acquired. Among the most important of them are communication skills and especially the good command of foreign languages. The respondents did not enter into details neither did they provide any specific examples from their own experience. There are no specific criteria in the current appointment and promotion procedures against which the soft skills of the candidates can be measured and evaluated. In spite of that, soft skills are taken into account during the procedures since they have indirect effect on scientific achievements and are important prerequisites for a researcher's career.

*"Women have a sense of innovation and creativity, a sense of responsibility, which are valuable qualities especially in applied fields of science." (Prof. Dr., Geography and Ecology, female)*

*"What is necessary is good equipment and sufficient resources, research talent, organizational skills, capabilities for effective search and selection of information, communication and presentation skills, analytical skills and especially good command of English." (Assoc. Prof. Dr., Informatics and Computer Science, female)*

*"You should be a scientist by nature! You have to admire it, to be obsessed by the issues you explore, to plan, search for funding, to achieve goals, to be motivated, and of course, to enjoy*

*the support of your university ... i.e. you should feel confident that your work is valued...” (Assist. Prof. Dr. Geography and Ecology, female)*

## **COUNTRY COMPARISON**

It becomes clear from the interviews that job candidates and committee members from different institutions tend to emphasize different aspects of the phenomenon of soft skills. Despite these differences, all of them recognize the importance of considering not only the scientific and technical qualifications of job candidates.

The interviews conducted at FBK (Italy) suggest that in science and technology academia in Italy many share the assumption that women’s main contribution to scientific team work consists of a set of specific communicative and social soft skills culturally and evolutionarily acquired in the care contexts traditionally entrusted to women. According to this idea, the inclusion of female researchers in teams and departments has the advantage of adding organizational intelligence and relational competences. Several interviewees concur that these specifically ‘female’ competences have so far been unjustly neglected and that, consequently, they should be recognized more strongly in academic selection procedures. Interestingly, the interviews suggest that men are more open than women to valuing soft skills in their assessments of candidates. The female candidates and committee members who have been interviewed tend to put the emphasis on objectively measurable aspects of their competences, e.g. on the number of their peer reviewed publications and the impact factors of the journals in which they have published.

The interviews conducted at ITU (Turkey) suggest that soft skills are considered to be important mainly because of the impact they may have on the climate and the smooth functioning of the workplace. While interviewees generally see communication skills as crucial for the pursuit of careers in scientific research, one of the female interviewees voices scepticism concerning the valuation of soft skills in selection procedures and maintains that they should not become part of the evaluation of a candidate.

The interviews conducted at UL (Ireland) suggest that the leadership, collaboration and interpersonal skills of a researcher should be deemed particularly important for the context of team work and the prospects of raising funds. One interviewee notes a discrepancy between the high importance of interpersonal communicative competences in assessing the aptness of a candidate and the extent to which these competences are actually being taken into account in selection procedures. Another interviewee stresses that nowadays there is a strong link between collaborative competences and the chances to receive funding for projected research.

As in Italy, Turkey and Ireland, the interviews conducted at RWTH Aachen (Germany) show that soft skills are generally taken to be highly important in the evaluation of a candidate. However, the range

of soft skills considered to be relevant in a given selection process is taken to be dependent upon the career level of the professorship that is at issue.

In the interviews conducted at SWU (Bulgaria) one major emphasis is on communication skills. Interestingly, the Bulgarian interviewees explicitly mention good command of foreign languages as a crucial communicative competence. While soft skills are generally considered to be important for the assessment of candidates and for decision-making in selection committees, the selection committees interviewed at SWU did not work with a formalized set of criteria in their soft-skill evaluations. It is also noteworthy that interviewees appeal to different competences when discussing the topic of soft skills. This suggests that there is no unanimously accepted repertoire of core competences which are generally accepted to be relevant soft skills in selection and promotion procedures.

In conclusion, the evaluation of the candidates' soft skills is considered a crucial element of selection procedures in all the partner countries – in the sense that such evaluation should be part of the assessment of a candidate's aptness for a given job. At the same time, many interviewees across countries are concerned about the means and criteria currently available for assessing and comparing soft skills in a transparent, reliable and fair manner. In fact, the interviews provide some evidence for the claim that soft skills are generally considered to be 'private' or 'personal' capacities which are difficult to assess in the course of conventional selection procedures and which would require longer periods of actually 'getting to know each other' in order to be ascertainable. The only partner institution that has employed a formalized grid of criteria for the evaluation of soft skills in the selection procedures which have been taken into account is FBK (Italy). An interview conducted at RWTH suggests a different approach to ascertaining social-communicative skills in candidates: informal meetings and communication alongside conventional selection methods. This approach has not been taken into account by the interviewees at FBK and, vice versa, the approach of formalizing criteria for soft skills has not been considered by interviewees at RWTH.

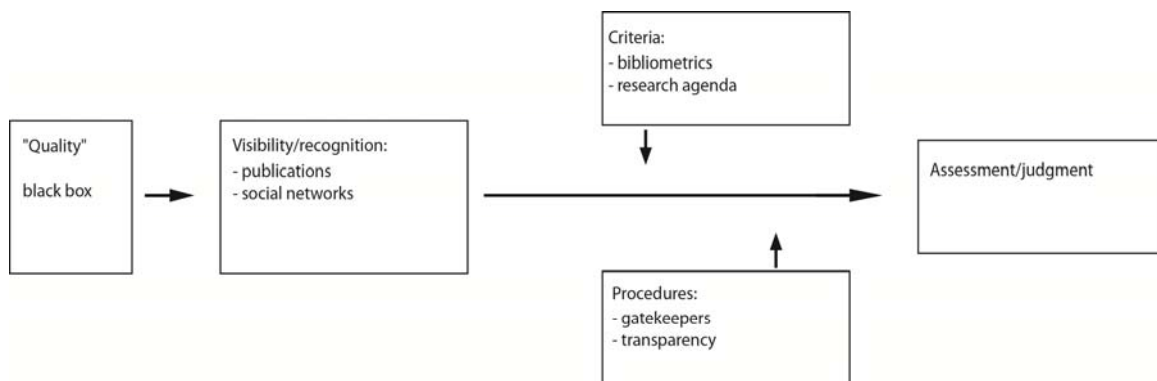
As noted above, however, one interviewee (female) from ITU has taken a critical stance toward the idea that communicative soft skills should be taken into account, suggesting that only strictly scientific skills should count as relevant. Similar attitudes can be inferred from what some of the interviewed women at FBK have said concerning the relevance of some soft skills in selection procedures for academic positions in science and technology.

An explicit association of the topic of soft skills with gender issues is presented only in the interviews conducted in Italy, Bulgaria and Germany. The Italian and one of the Bulgarian interviewees suggest a general assumption to the effect that soft skills are much more pronounced in women compared to men, and one of the German interviewees suggests that the allegedly stereotypical idea that women

researchers are less capable of presenting their scientific work in a self-confident way is in fact just that, a stereotype.

## 6. IMPLICATIONS FOR A GENDER-SENSITIVE CONCEPTION OF EXCELLENCE

The central question is, what is “Excellence”? What are its specific characteristics? Against the background of disciplinary differences on the basis of heterogeneity of procedures for defining and measuring scientific quality Brouns (2007:28) suggests a model that gives an general idea of the complex relationship between “quality” of an individual and the outcome in measured “excellence”(cf. figure 1).



**Figure 1: Transformation of individual quality into measured excellence (Cf. Brouns, 2007:28)**

Brouns raises the questions what the relationship between the “Quality”, “Visibility” and “the Judgement: excellence” and what gender dimension is given “that influences the visibility of personal qualifications, the measurement of the qualifications, and the ultimate judgment of the scientific quality of male and female scholars and scientists” (ibid). In the following we work out important aspects of the “excellence relationship” which follow from our empirical analyses and from these derive implications for a gender-sensitive conception of excellence.

### 6.1 IMPLICATIONS FOR EVALUATING SCIENTIFIC ACHIEVEMENTS AND QUALIFICATIONS

In terms of scientific achievements and qualifications, a commonly shared concept of excellence is constructed on the basis of publications and international visibility. This is also verified by the narratives of the interviewees who point out two important aspects in terms of scientific excellence: publishing and mobility. On the other hand, Brouns (2007:29f) suggests bibliometrics, which have unintended consequences that lead to gender bias. Furthermore, it is important to remark that a

publication process depends not only on the researcher's abilities and working capacity; there are many other indicators that affect publication processes. Yet most interviewees make a distinction between the quality and the quantity of publishing and they suggest that the quality of publishing should indeed matter. While the quantity of publications may be a determining factor for the jury who decide to promote the candidate, the interviewees suggest that the quality is much more important than the quantity. In terms of international visibility, women's responsibilities arising from their gender roles hinder their capacity for mobility. Therefore they fail to accumulate the necessary forms of capital to move higher up in the academic ranks.

Since such criteria do not primarily signify that they include gender bias, a gender-sensitive conception of excellence could only be provided by extracting gendered processes embedded within selection processes. More importantly, if we need a conception of excellence that is gender-sensitive, this can only be reached by improving gender action plans and recommending university policies for gender equality. If the working conditions are equal, then evaluating excellence through publications and international mobility might become more objective.

Specifically, if researchers manage to achieve a particular work-life balance, applying a gender-sensitive excellence to the selection process will be much more successful. The narratives of interviewees show that excellence is determined by academic mechanisms dominated by men. Women's responsibilities due to their gender roles as mothers present an obstacle in the academic qualification process. Therefore they are not considered as successful as their male colleagues. Gender-sensitive criteria in the academia would first improve women's conditions related to the processes of academic qualification to be conducted fairly.

In sum, there should be fixed conditions and equal opportunities for everyone to provide everyone with equal chances for mobility. Second, publishing mechanisms should be fair as much as possible.

## 6.2 IMPLICATIONS WITH REGARD TO "FITTING OF THE PERSON AS MEMBER OF THE SCIENTIFIC COMMUNITY"

The analysis of the interviews by all partners and the country comparisons showed that scientific community means at least two intertwined communication and collaboration processes within established horizontal and hierarchical relationships. In order to efficiently fit in a researcher should have sufficient time, good communicative skills and strong dedication to science. Some other important prerequisites could be: possession of research qualification and academic rank, relevant scientific output and availability of appropriate equipment, etc.

There are various kinds of gender aspects of fitting. Some of them are connected with the fact that there are traditionally established gender roles, perceptions, expectations and attitudes which influence the process of acceptance, integration and recognition of a new member. Others regard the caring duties of female scientists which make their fitting in the scientific community much more difficult.

Closely connected with fitting is academic promotion. Evaluation is usually done differently at junior and senior levels of the scientific career referring either potential for research work or research output. An essential point which emerged from the survey is the perception (*illusio*) of many scientists that advancement is a social game.

Women scientists are disadvantaged in struggling for successful careers either because of care duties with all the consequences or due to the abilities of men to understand the game better and engage more efficiently in it. All these call for measures such as coaching, mentoring and counselling support, training programmes, etc. in order to enable women to fit better in the scientific community and present themselves better in promotion procedures.

### 6.3 IMPLICATIONS WITH REGARD TO “FITTING OF THE PERSON WITH A SPECIFIC SOCIAL BACKGROUND (LOCAL LOGICS)”

The analysis of the interviews by all partners and the country comparisons showed that each institution has its own local logic when considering what constitutes excellence. In Italy and Ireland communication and teamwork are considered essential skills in the local logics of the institution but these are not necessarily stated criteria. In Germany, being a team player also figures in the local logic as do management skills, teaching skills, and working long hours. The intersection of age with gender in Germany and gender with class in Turkey demonstrates the way local logics are interpreted in each institution and influenced by national contexts. Within the context of what makes sense in each institution, this analysis has shown that assessors often select ‘safe’ candidates because they possess qualities familiar to the assessor, which frequently means their gender. Local logics are important because the definition of excellence is constructed by selection boards; therefore, we will develop a conception of excellence which highlights the effect of local logic on selection decisions. This analysis has also shown that a care ceiling is in operation in higher education, which is replacing the glass ceiling. This care ceiling puts a clear and definite limit to the levels people with care responsibilities can aspire to reach in universities.

The analysis also demonstrated the extent of the care ceiling in each of the partner institutions. The national context, while very different in each of the partner countries, nevertheless demonstrates the persistence of the gendered order of caring and the difficulties this presents for women who combine

motherhood with paid work. The institutions studied demonstrate that they are 'care-less' organisations with a care ceiling firmly in place, which creates difficulties for women to advance their careers.

#### 6.4 IMPLICATIONS WITH REGARD TO “ACKNOWLEDGEMENT IN THE SCIENTIFIC COMMUNITY (VISIBILITY)/ATTRIBUTION AND RECOGNITION”

The interview findings confirm that acknowledgement of researchers in the scientific community is not only achieved on the base of their scientific achievements. The recognition of scientific excellence as well as the attribution of excellence to a person is closely connected with her or his personality and charisma which are based on social competencies. Therefore the process and the practices of becoming acknowledged are strongly interwoven with gender bias in manifold ways. Insofar, it is recommendable that the conception of excellence should be opened to social aspects such as social competencies, which are taken into account together with the purely academic achievements in the evaluation of researchers. However, it is important that there are transparent, standardized procedures against which these non-scientific qualities of the candidates can be measured. Most important in this regard are competencies such as management skills, assertiveness, communication skills, and networking.

That is why the promotion of young researchers via a scientifically oriented human resources development is important. As interviews with young researchers in FESTA have shown, social and strategic knowledge which are necessary for a successful scientific career are not taught systematically; they will be conveyed by the supervisors rather indirectly and sometimes arbitrarily. However, after participation in trainings that teach these skills, women have good chances in appointment procedures. In this regard, it is recommended that the competence and knowledge of supervisors on aspects of a gender-sensitive promotion of young scientists is also included into the canon of excellence criteria.

However, acknowledgement and thus visibility in the scientific community is also connected with cooptation processes and gender stereotyped beliefs regarding societal responsibilities (child and family care), the filling of positions (the professor as a male with a male-connoted trait: the scientific personality). And finally, acknowledgement is connected with 24/7 scientists which excludes persons with care responsibilities. The scientific field is not – at least not yet – open to more flexible and more work-life balanced career paths. The recommendation here only can be that the focus in judging excellence has to be on quality and not exclusively on quantity.

## 6.5 IMPLICATIONS WITH REGARD TO “INNOVATION, CREATIVITY, ‘SOMETHING MORE’ – SOFT SKILLS”

In the interviews the question of soft skills plays an important role with respect to the evaluation of candidates and the assessment of their degree of excellence. In the Italian interviews some interviewees even maintained that soft skills can be the decisive 'something more' that can be crucial for selection committees.. The valuation and appreciation of soft skills amounts to considering the personalities of candidate researchers in their entirety, and not only with regard to number of peer-reviewed publications or citation indices.

It has emerged from the interviews that one of the desiderata perceived as most pressing is that the appreciation of soft skills in selection processes must be substantiated with transparent methods and ascertainment strategies. The interviews suggest two strategies in this regard: formalizing a grid of criteria and informal methods like socializing and communication about extra-scientific matters. The interviews, however, also provide evidence for the claim that the important role that is ascribed to soft skills in the interviewees’ reflections how selection procedures in the field of science and technology should best be organized is not yet adequately mirrored in actual selection and recruitment policies and practices.

## 6.7 CONCLUSION

Scrutinizing excellence in the context of hiring processes at universities and research institutions from different angles and against the background of important rules of the “scientific game” it becomes obvious that scientific quality in terms of excellence is co-constructed with

- gender and class privileges
- maternity and a care ceiling
- processes of cooptation and homosociability
- gender-stereotyped beliefs of women and men’s abilities and traits
- a self-presentation as “scientific personality”

Thus, the current construction of academic excellence helps to (re-)produce the dominant gender structure in academia through structural and symbolic power that works in the scientific field.

Certainly, it is the ‘illusio’ of the scientific field that positions in science are occupied in line with the meritocratic principle. However, as the scientific field is still a relatively autonomous field it has the



possibility to refract demands from outside and to translate the selection of the best into its own logic. (cf. Gilbert, 2007:2) Thus, the best candidate in hiring processes at universities and research institutions is characterized by a number of skills and traits that go far beyond the candidate's scientific achievements. The judgment of what an excellence achievement is remains to a certain extent subjective and has to be made "visible" by social skills such as communication skills, self-presentation skills, and networking skills. Furthermore, it depends on the demands of the hiring institutions, on what is needed in a specific context and against the background of the transformation from the "Humboldtian University" (which values education and research and a comprehensive pedagogical and collegial principle) into the "managerial university," with its focus on introducing private sector management practices to public sector institutions. This means that at universities and research institutions, hiring processes seek to recruit the best researchers with demonstrated 'scientific achievements', and who also will best perform the tasks of research and teaching. In some institutions management ability is also a prerequisite. However, while scientific achievements are subject to specific evaluation procedures throughout the scientific community, these procedures are far from objective. In our country comparisons, we found that factors such as the care ceiling, gender and class privileges also influence the perception of suitability, yet these are largely unacknowledged in hiring processes. These findings suggest that greater transparency in hiring processes is necessary to make such processes more objective. They also have implications for the development of a gender-sensitive conception of excellence.

We will develop workshops for members of hiring committees in order to raise awareness of the subjective ways excellence is currently deployed, and to introduce a gender-sensitive conception of excellence. In addition to formalising recruitment processes, awareness of gender in hiring processes will contribute to fairness and transparency and advance gender equality in research institutions.

## **7. RECOMMENDATION FOR A CONCEPTION OF AN AWARENESS WORKSHOP FOR MEMBERS OF SELECTION COMMITTEES**

A gender awareness workshop with selection committees should be based on the topics of “fairness”, “transparency” and “quality” in the selection process. It should be an “eye opener” for the members and leader of these processes. A fairness discussion should include ethnic and religious fairness. So before moving on to a discussion of gender issues, the nature of bias, fairness and objectivity will be debated.

An awareness workshop should follow three steps: beginning with (1) the self-reflection of participants’ own experiences, backgrounds and emotions, the exchange (2) with others is stimulated, which is a basis for (3) the development of action alternatives. (cf. Schmidt, without year) If these three steps lead to willingness for change among the participants the workshops can be evaluated as successful.

Self-reflection can be encouraged through different methods:

- Legal approach – discussion of case studies on the base of legal regulations
- Change of perspectives – how does the perspective of the other side look like?
- Open Space Technology - discussion of quotations
- Stage role plays

Awareness workshops are to challenge attitudes and behaviours in relation to:

- interpretation of formal criteria to fit local logics
- homosociability, cooptation – familiar (masculine) qualities = ‘safe’ candidates
- challenging privilege (gender/class)
- maternity and the care ceiling

To stimulate an open and constructive debate, the following question may be posed:

- What is the current situation? (presentation of facts & figures from the university, esp. gender perspectives)
- How can we realize an objective & fair evaluation process?
- How can we guarantee equal working conditions?
- What work-life balance policies can we implement as an institution?
- Do we need to have legal procedures in order to guarantee objective and gender neutral evaluations or do we need to redesign those that already exist?

Finally, common development of alternatives constitutes an important step to produce the willingness for change among workshop participants.

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## APPENDIX

### INTERVIEW GUIDELINES

#### BRUNO KESSLER FOUNDATION, ITALY (FBK)

##### Guideline for committee members

1. How do you define excellence in research work?
2. What do you think, what are important criteria in appointment procedures for the identification of excellence among the applicants for a professorship?
3. How to measure and recognize excellence: Is excellence objective and measurable?
4. Do you believe that all appointment commission members use the same parameters to define / evaluate excellence?
5. Which criteria of excellence are generally used at your faculty in order to identify the most promising candidates?
6. Are these indicators oriented towards the overall goals of your university?
7. Do the criteria of excellence which you generally apply in order to identify the most excellent researchers among the applicants conform to or are they slightly different from the communicated indicators by the appointment commission? Do you apply criteria other than those communicated?
8. What is the weight and function of the different capacities in the evaluation? What produces (or facilitates) consent of the Commission on a candidate?
9. How necessary are the criteria „leadership skills“, „teaching ability“ and „gender and diversity competencies“ in your opinion in order to do a good job as a professor? Are they adequately evaluated in appointment procedures?
10. How transparent are appointment procedures in your opinion and what determines your answer?
11. Which measures ensure a transparent decision-making process?
12. What do you think, to what extent do indicators and the process of recognition and evaluation of scientific achievements contribute to a systematic discrimination of female scientists?
13. How could one overcome these discriminations?
14. Which further indicators of excellence are apt to improve equal opportunities?
15. Did you ever experience appointment committees which gave you the impression that they applied double standards in the evaluation of women and men?
16. Did you experience any gender discrimination in an appointment process?
17. Do you have the impression that typically “male” career models or specific professional focuses are incorporated in the criteria of excellence?



18. Do you think that the current procedure is gender-appropriate?

### **Guideline for Candidates**

1. How do you define excellence in research work?
2. What do you think, what are important criteria in appointment procedures for the identification of excellence among the applicants for a professorship?
3. How to measure and recognize excellence: Is excellence objective and measurable?
4. Do you believe that all appointment commission members use the same parameters to define / evaluate excellence?
5. What do you think were the Board's criteria for assessing excellence in candidates? Do you think that other evaluation criteria should be used to have a more complete picture of scientific excellence?
6. In your opinion, to what extent is the selection process transparent?
7. What steps can help to make the selection process more transparent? Have such steps been used by this research institution?
8. Was it a formalized selection process?
9. What other factors could, in your opinion, make the selection process more objective and less discriminatory?
10. What do you think of anonymous selection procedures?
11. Would the presence of an 'ombudsperson' or objective observer be helpful?
12. Did you ever experience/notice other gender-related discrimination in recruitment?

## **ISTANBUL TECHNICAL UNIVERSITY, TURKEY (ITU):**

### **1) Guideline for senior researcher / focus group interviews**

#### **Construction and evaluation of excellence**

1. What is your definition of excellence? Is it, in the context of appointment procedures, a new term or not?
  - a. Brink and Benschop 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 subject to multiple cultural and political influences.” (2011: 3) Do you agree with this?
2. What do you think are important criteria for the identification of excellence among the applicants for a professorship?
  - a. Explain each criterion (provide further definition and give examples for each criterion and explain these, too)
    - criteria can include (research) productivity, peer review, citation indices, internationally refereed publications, membership in editorial boards
    - plus soft skills - leadership, communication, team building, problem solving
    - or „teaching ability“ and „gender and diversity competencies“
3. What criteria of excellence are generally used at your faculty/research center to identify the most promising candidates? Are these laid down in the appointment procedures?
4. Are there any prioritized criteria? Are the criteria weighted? What weightings are used?
5. Do these indicators reflect the overall goals of your university? Or not really?
6. Do you think these criteria are equally achievable for women and men?
7. Are there any difficulties in achieving such excellence? Do boards need to be realistic about what can be expected in particular situations? Such as?

#### **Recruitment and selection process**

8. Is the recruitment process formalized?
9. What is important to you when selecting an assistant professor or appointing someone as professor? What qualities/ characteristics are important to you? (research strength, teaching, committee participation, management, administration, knowledge transfer, public relations, external advice / expertise, networking, straight career without breaks, fitting into the team, familiarity with candidate etc.)
  - a. What criteria were used last time you appointed an (assistant) professor?

- b. Are these the criteria defined by the faculty/institute? Or those that emerged from the discussions in the board, or a combination of the two?
  - c. Explain each criterion (provide further definition and give examples for each criterion and explain these, too). Which criteria were given more importance by that particular Board?
  - d. What are the critical characteristics for the candidates according to you? (with regard to the selection decision: where the PhD were completed, achieved grants, parental leave; factors that are personal to the candidates)
  - e. What do you think are the critical turning points in a candidate's career?
  - f. Do you think that the criteria will be weighted differently when the candidates are compared?
10. Which skills are necessary in order to do a good job as an (assistant) professor? Explain each of them. What is the place or weight of these skills in the evaluation during the appointment process? Please explain.
  11. How is the decision made as to who will get an (assistant) professor position? What qualities make a good candidate for this position? What kinds of competencies would a young candidate possess that would lead you to encourage them to apply for such a post?
  12. How do you think the differences in the recruitment of men and women to top positions can be explained? In your opinion, is there discrimination against female scientists, or are possible differences due to other factors? Such as?
  13. How could these be overcome?
  14. Would other indicators of excellence change this pattern? Such as?
  15. How transparent are appointment procedures in your opinion?
  16. Which measures ensure a transparent decision-making process for appointments? Which measures exist at this university?
  17. What other factors are also influential in appointment procedures that could compromise objectivity and equity in the hiring process?
  18. Would making the applications of successful and unsuccessful candidates publicly available improve transparency? Who might have difficulties with this?
  19. What do you think about anonymous appointment procedures for professorships?
  20. What do you think of ombudspersons who take part in the selection committee in order to avoid discrimination?
  21. What do you think of training members of appointment commissions in gender awareness?

At the end of the interview:

22. Please could you sum up the arguments why the successful candidate was chosen for the professorship over other candidates?

23. When you look back on the appointment process what was good about it? And what was less than optimal?
24. What was the gender composition of the appointment commission?
25. Who decided, or what was the process for deciding, on who was to be a member of the appointment commission?

## **2) Guideline for successful applicant and unsuccessful applicant**

### **Construction and evaluation of excellence**

1. What is your definition of excellence? Is it a new term or not?
  - a. Brink and Benschop 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 subject to multiple cultural and political influences.” (2011: 3) Do you agree with this?
2. What do you think are important criteria for the identification of excellence among the applicants for a professorship?
  - a. Explain each criterion (provide further definition and give examples for each criterion and explain these, too)
    - criteria could include (research) productivity, peer review, citation indexes, internationally refereed publications, membership of editorial boards
    - plus soft skills such as leadership, communication, team building, problem solving
    - or „teaching ability“ and „gender and diversity competencies“
3. Are there any difficulties in achieving such excellence? Do appointment boards need to be realistic about what can be expected in particular situations? Such as?

### **Recruitment and selection process**

1. Were you aware of the criteria used by the appointment committee to assess your scientific excellence and your suitability for the professorship?
2. Do you think that other selection criteria / indicators of excellence should be applied in order to get a complete picture of your scientific excellence? Such as?
3. How transparent was the appointment process in your opinion?
4. Which measures ensure a transparent decision-making process? Were they applied at this university/research institution?
5. What other factors might also be influential in the appointment process that could ensure an objective and equitable hiring process?

## **UNIVERSITY OF LIMERICK, IRELAND (UL)**

### INTERVIEW GUIDE FOR MEMBERS OF PROMOTIONS BOARDS

(University Promotions Board / Faculty Promotions Committee/ University Review Committee).

Thank you for agreeing to participate in this interview, in which we will discuss the process for promotions and the criteria of excellence used to assess candidates.

[I use the term promotions committee to mean University Promotions boards, Faculty Promotions Committees and University Review Committees]

1. How did you come to be on the Promotions Committee?
2. How many candidates applied for promotion?
3. How many candidates were successful ?
4. What was the gender breakdown of successful candidates?
5. What were the main reason(s) candidates were unsuccessful?
6. Why do you think there are differences in the success rates of men and women?
7. In relation to the promotion process - Are there particularly positive aspects (for you, for the candidates, for the faculty, for the university/department)
8. In relation to the promotion process - Are there any negative aspects (for you, for the candidates, for the faculty, for the university/department)
9. How does the promotions committee reach decisions regarding which candidates are successful?
10. In the competition, was it easy or difficult to reach consensus? – Can you tell me about it?
11. Have you ever been on a promotions committee where you didn't agree fully with the decision?
12. Who was the most influential member of the promotions committee?
13. Why?
14. How do you define academic excellence?

15. How do you measure it/recognise it?
16. Do you think the criteria used in the promotions process reflect academic excellence?
17. Do you think all members of a promotions committee interpret the criteria of academic excellence in the same way?
18. Do you think the criteria & weightings reflect the overall goals of the university / faculty?
19. Or not exactly?
20. Are there other skills or qualities a candidate could possess which are not included in the official promotion criteria but which would signify suitability for promotion?
21. What about factors such as team fit / rewarding long service /potential – which suggest a candidate is deserving of promotion?
22. Is this problematic?
23. Scientific evidence suggests that men and women candidates are rated differently – what do you think about that?
24. What was the gender composition of the promotions committee?
25. Is this usual?
26. What do you think of training members of promotions committees in gender awareness?
27. Is there anything else you would like to say about any aspect of the criteria or process?

#### INTERVIEW GUIDE FOR MEMBERS OF SELECTION BOARDS

Thank you for agreeing to participate in this interview, which will discuss the criteria of excellence used to make the selection decision in relation to the recent competition for Lecturer-below-the-bar in Polymer Chemistry.

1. How did you come to be involved in the selection board for Lecturer-below-the-bar in Polymer Chemistry?
2. Who selected the members of the selection board?

3. What was the gender composition of the selection board?
4. Is this usual?
5. What selection criteria were specified in the job description for Lecturer-below-the-bar in Polymer Chemistry?
6. Who drafted the advertisement and the initial ranking scheme?
7. Which of the selection criteria do you think were the most important in making the right selection decision?
8. Was the initial ranking scheme modified by the Board at any stage?
9. 6 women and 14 men applied for that position – how many women and men were shortlisted for interview?
10. What was the process for reaching the decision regarding the successful candidate?
11. Was it easy or difficult to reach consensus on the successful candidate?
12. Was there one strong member of the board who influenced the outcome?
13. Why?
14. Have you ever been on a selection board where you didn't agree fully with the decision? What happened?
15. How do you define academic excellence?
16. How do you measure it/recognise it?
17. Would you describe the successful candidate as 'excellent'?
18. Do you think the official criteria used to make selection decisions generally reflect academic excellence?
19. Do you think all members of a Selection Board interpret the criteria of academic excellence in the same way?
20. Are there other skills / qualities a candidate could possess which could also signify suitability?
21. How important are interpersonal qualities, e.g. team building, cultural fit?

22. How important is potential?
23. Were the official criteria interpreted in a way which is sensitive to the realities of UL in order to make the best possible decision?
24. Why do you think there are differences in the success rates of men and women?
25. Scientific evidence suggests that men and women candidates are rated differently – what do you think about that?
26. What do you think of training members of selection boards in gender awareness?
27. Is there anything else you would like to say about any aspect of the criteria or process?

#### FOCUS GROUP GUIDE

Thank you for agreeing to participate in this focus group. We will discuss promotion and selection procedures and the criteria of excellence which are applied in hiring and promotion processes here in UL.

[I use the term selection committee to mean University Promotions Boards, Faculty Promotions Committees, University Review Committees and Selection Boards].

- Ask each member to introduce themselves and name the most recent promotion/selection board they were on
1. How did you come to be involved in the most recent selection committee you were on?
  2. What was the gender composition of that selection committee?
  3. Who selected the members of the selection board?
  4. Who drafted the advertisement?
  5. Do you think the official selection criteria were appropriate for the position?
  6. How do you define academic excellence?
  7. How do you measure it/recognise it?



8. Do you think the official criteria used to make selection decisions generally reflect academic excellence?
9. Do you think these criteria are equally achievable for men and women?
10. Are there other skills / qualities a candidate could possess which are not included in the selection criteria but which would signify excellence?
11. What about those qualities that would signify suitability?
12. How important are interpersonal qualities, e.g. team building, cultural fit?
13. How important is potential?
14. Have you ever been on a selection committee where the official criteria were interpreted in order to make the best decision? What happened?
15. Have you ever been on a selection committee where you didn't agree fully with the decision? What happened?
16. Was there one strong member of the committee who influenced the outcome?
17. Was it easy or difficult to achieve consensus in rating the candidates?
18. Why do you think there are differences in the success rates of men and women in hiring and promotion competitions?
19. Scientific evidence suggests that men and women candidates are rated differently – what do you think about that?
20. Do you think the gender composition of a selection committee has any bearing on the outcome?
21. What do you think of training members of selection committees in gender awareness?

#### INTERVIEW WITH SUCCESSFUL AND UNSUCCESSFUL CANDIDATES FOR PROMOTION

Thank you for agreeing to participate in this interview. We will discuss promotion procedures, and the criteria of excellence which are applied in promotion processes here in UL.

1. Tell me about your most recent application for promotion
-

2. Can you describe the promotion process?
3. What criteria were used to assess candidates for promotion?
4. Do you think these criteria signify academic excellence?
5. Are there other skills or qualities a candidate could possess which would signify academic excellence?
6. Did anyone encourage you to go for promotion? Or discourage you?
7. Did you ask anyone to look over your application before submitting it? What was that like?
8. What did you learn from the experience of putting yourself forward for promotion?
9. Is there anything else you would like to say about the criteria or process?

INTERVIEW WITH SUCCESSFUL AND UNSUCCESSFUL CANDIDATES FOR LECTURER BELOW THE BAR IN POLYMER CHEMISTRY, 2012.

Thank you for agreeing to participate in this interview. We will discuss the selection process, and the criteria of excellence which were applied in the competition for Lecturer-below-the-bar in Polymer Chemistry.

1. Tell me about your application for Lecturer-below-the-bar in Polymer Chemistry.
2. Can you describe the selection process?
3. What were the criteria used to assess candidates?
4. Do you think these criteria signify academic excellence?
5. Are there other skills or qualities a candidate could possess, which would also signify academic excellence?
6. How important do you think suitability is compared with excellence?
7. What did you learn from the experience of applying for the position?
8. Is there anything else you would like to say about the selection process or criteria?

## **RWTH AACHEN UNIVERSITY, GERMANY (RWTH)**

### **1) Guideline for senior researcher / focus group interviews**

#### **Construction and evaluation of excellence**

1. What is your definition of excellence? Is it, in the context of appointment procedures, a new term or not?
  - a. Brink and Benshop 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 subject to multiple cultural and political influences.” (2011: 3) Do you agree with this?
2. What do you think are important criteria for the identification of excellence among the applicants for a professorship?
  - a. Explain each criterion (provide further definition and give examples for each criterion and explain these, too).
    - criteria could include (research) productivity, peer review, citation indexes, internationally refereed publications, membership of editorial boards
    - plus soft skills such as leadership, communication, team building, problem solving
    - or „teaching ability“ and „gender and diversity competencies“
3. What criteria of excellence are generally used at your faculty/research institution to identify the most promising candidates? Are these defined in the appointment procedures?
4. Are there any prioritized criteria? Are the criteria weighted? What weightings are used?
5. Do these indicators reflect the overall goals of your university? Or not really?
6. Do you think these criteria are equally achievable for women and men?
7. Are there any difficulties in achieving such excellence? Do Boards need to be realistic about what can be expected in particular situations? Such as?

#### **Recruitment and selection process**

8. Is the recruitment process formalized?
9. What is important to you when selecting an assistant professor or appointing someone as professor? What qualities/characteristics are important to you? (research strength, teaching, committee participation, management, administration, knowledge transfer, public relations, external advice / expertise, networking, straight career without breaks, fitting into team, familiarity with candidate etc.)
  - a. What criteria were used last time you appointed an (assistant) professor?

- b. Were these the criteria that were defined by the faculty/institute? Or those that emerged from the discussions in the board, or a combination of the two?
  - c. Explain each criterion (provide further definition and give examples for each criterion and explain these, too). Which criteria were given more importance by that particular Board?
  - d. What are the critical characteristics for the candidates according to you? (with regard to the selection decision: where the PhD were completed, achieved grants, parental leave; factors that are personal to the candidates)
  - e. What do you think are the critical turning points in a candidate's career?
  - f. Do you think that criteria will be weighted differently when the candidates are compared?
10. Which skills are necessary in order to do a good job as an (assistant) professor? Explain each of them. What is the place or weight of these skills in the evaluation during the appointment process? Please explain.
  11. How is it decided who will get an (assistant) professor position? What qualities make a good candidate for this position? What kinds of competencies would a young candidate possess that would lead you to encourage them to apply for such a post?
  12. How do you think the differences in the recruitment of men and women to top positions can be explained? In your opinion is there discrimination against female scientists-or is it due to other factors? Such as?
  13. How can these be overcome?
  14. Would other indicators of excellence change this pattern? Such as?
  15. How transparent are appointment procedures in your opinion?
  16. Which measures ensure a transparent decision-making process for appointments? Which measures exist in this university?
  17. What other factors are also influential in appointment procedures that could compromise objectivity and equity in hiring process?
  18. Would making the applications of successful and unsuccessful candidates publicly available help transparency? Who might have difficulties with this?
  19. What do you think about anonymous appointment procedures for professorships?
  20. What do you think of ombudspersons who take part in selection committee sessions in order to avoid discrimination?
  21. What do you think of training members of appointment boards in gender awareness?

At the end of the interview:

22. Could you please sum up the arguments why the successful candidate was chosen for the professorship over other candidates?
23. When you look back on the appointment process what was good about it? And what was less than optimal?

24. What was the gender composition of the appointment board?
25. Who decided, or what was the process for deciding, on who was selected to be a member of the appointment board?

## **2) Guideline for successful applicant and unsuccessful applicant**

### **Construction and evaluation of excellence**

1. What is your definition of excellence? Is it a new term or not?
  - a. Brink and Benschop 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 subject to multiple cultural and political influences.” (2011: 3) Do you agree with this?
2. What do you think are important criteria for the identification of excellence among the applicants for a professorship?
  - a. Explain each criterion (provide further definition and give examples for each criterion and explain these, too).
    - criteria can include (research) productivity, peer review, citation indexes, internationally refereed publications, membership of editorial boards
    - plus soft skills such as leadership, communication, team building, problem solving
    - or „teaching ability“ and „gender and diversity competencies“
3. Are there any difficulties in achieving such excellence? Do appointment boards need to be realistic about what can be expected in particular situations? Such as?

### **Recruitment and selection process**

4. Were you aware of the criteria used by the appointment board to assess your scientific excellence and your suitability for the professorship?
5. Do you think that other selection criteria / indicators of excellence should be applied in order to get a complete picture of your scientific excellence? Such as?
6. How transparent was the appointment process in your opinion?
7. Which measures ensure a transparent decision-making process? Were they applied at this university/research institution?
8. What other factors might also be influential in the appointment procedures that could ensure an objective and equitable hiring process.

### **3) Further questions for the interview with the gender equality officer**

1. Have you ever witnessed gender discrimination in an appointment process?
2. Have you seen boards evaluate the same phenomena in men and women differently? Such as?
3. Can you tell me anything about appointment committees, where you had the impression that double / unequal standards were applied in the evaluation of women and men candidates?
4. Do you have the impression that typical “male” career models or a specific professional focus is incorporated in the criteria of excellence?
5. Do you think that the current procedure is gender-appropriate / gender-neutral?
6. Have you heard of examples of nepotism occurring in appointment procedures? What about sexism? How common do you think these are? How could this kind of thing be prevented?

## **SOUTH-WEST UNIVERSITY “NEOFIT RILSKI”, BULGARIA (SWU)**

### **INTERVIEW GUIDE FOR MEMBERS OF SELECTION COMMITTEES / EVALUATION BOARDS (JURYS)**

1. How do you understand the term “excellent scientific achievement”?
2. Do you apply this understanding during the selection / promotion procedures you have participated in so far?
3. Which are, according to you, the most important criteria when assessing and acknowledging the research output of a certain candidate for the academic position of: “Chief Assistant Professor”, “Associate Professor”, “Professor” or the scientific degrees – “Philosophy Doctor”, “Doctor of Sciences”?
4. How do you evaluate and acknowledge the quality of a researcher’s output in your field / unit/ faculty?
5. How do the applied criteria correspond to the officially approved criteria and requirements, laid down in the rules and procedures for selection and promotion in the university?
6. Do these criteria allow objective assessment and evaluation of candidates? Are there any indicators or coefficients, determining the weighting of each criterion?
7. Which of them have the strongest weighting?
8. How do the officially announced criteria correspond to the mission and the overall strategic aims of the university or is this correspondence only formal?
9. Are these criteria equally achievable for male and female candidates?
10. Are there any barriers or obstacles which hinder achieving excellent research outcomes corresponding to the officially approved criteria and indicators?
11. Are you familiar with cases in which the evaluation board (the jury) has undervalued or intentionally misjudged the quality of the research outcomes, taking into account other (non-scientific) considerations?
12. Which are the most important qualities in order to be a successful candidate for the position of “associate professor” / “professor”?
13. Who suggested or decided on the members of the evaluation board (jury) in which you recently participated?
14. What was the gender composition of the evaluation board (jury)?
15. Which criteria prevailed in taking the final decision?
16. Did these criteria and their weightings correspond to those officially announced by the University’s Academic Council?
17. Which other criteria, in your opinion, could be decisive for the success in the appointment / selection / promotion procedures?

18. Do you think that the official criteria are interpreted and applied differently when there is more than one candidate and their scientific achievements are being compared?
  19. What kinds of qualities are necessary for a researcher in order to perform quality research and academic work (teaching, supervision, guidance, etc.) as an Assistant Professor / Associate Professor / Professor?
  20. Do the officially announced criteria reflect these qualities and have they been taken into account in the selection or promotion procedures?
  21. Who takes the decision about hiring / promotion of a candidate? According to your experience, is it easy to reach consensus about the final decision?
  22. Have you ever been on a promotion committee where you disagreed partially or completely with the final decision? What were the consequences?
  23. According to statistical surveys the percentage of female researchers in higher academic and managerial positions in the natural sciences and engineering, technology and mathematics is low. What do you think are the reasons for that situation?
  24. How could a woman overcome the difficulties in her career advancement?
  25. What other criteria could be taken into account in selection / promotion procedures in order to improve these disproportions? Could you suggest some?
  26. How transparent are the procedures for selection / promotion in your opinion?
  27. What kind of measures guarantees transparent decision making during the promotion procedures?
  28. Have they been really applied in the university?
  29. What other factors could have significant effect on selection or promotion procedures, so as to compromise the objectivity and equal treatment of male and female candidates?
  30. Are you familiar with cases of "nepotism" (a negative practice among those with power or influence of favoring relatives or friends, especially by giving them a position or helping in promotion)?
  31. How many such cases you know about?
  32. What is necessary to be done in order to prevent from such practices?
  33. Are you familiar with cases in which gender aspects have influenced the acknowledgment of excellent scientific results?
  34. Do you think that some academic positions are more suitable for men / women or are all positions are gender neutral?
  35. Have you ever had the feeling that the criteria applied during the evaluation of the research achievements correspond more to a certain „male“ career model or specific "male" professional profile?
  36. Are the documents of the candidates (successful and unsuccessful) publicly available? Does this increase transparency?
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37. What do you think about anonymous / personalized voting in the selection / promotion procedures?
38. What do you think about involving an external and independent representative in hiring / promotion procedures in order to avoid discrimination?
39. What do you think of training members of selection committees / evaluation boards in gender awareness in order to avoid gender discrimination?
40. What do you find as positive and negative in present criteria and procedures for hiring and promotion?

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#### **INTERVIEW GUIDE FOR SUCCESSFUL / UNSUCCESSFUL CANDIDATES**

1. How do you understand the term “excellent scientific achievement”?
2. Which are, according to you, the most important criteria when assessing and acknowledging the research output of a certain candidate?
3. How do you evaluate and acknowledge the quality of a researcher’s output in your field / unit / faculty?
4. How do the applied criteria correspond to the officially announced criteria and requirements, laid down in the rules and procedures for selection and promotion?
5. Do these criteria allow objective assessment and evaluation of candidates? Are there any indicators or coefficients, determining the weighting of each criterion?
6. Which of them have the strongest weighting?
7. How do the officially announced criteria correspond to the mission and the overall strategic aims of the university or is this correspondence only formal?
8. Are these criteria equally achievable for male and female candidates?
9. Can you tell about any barriers or obstacles which hinder achieving excellent research outcomes corresponding to the officially announced criteria and indicators?
10. What degree / academic position have you recently applied for?
11. Who takes decisions on the members of the evaluation board (jury)?
12. What was the gender composition of the evaluation board (jury)?
13. Were you familiar with the selection / evaluation criteria used by the selection committee / evaluation board (jury) for the assessment of your scientific competence and research achievements required for that particular degree / position?
14. Do you think that some other criteria, circumstances or factors that are not part of the official criteria should be taken into account in order to achieve a more complete evaluation of your entire work? Could you suggest some?

15. How transparent was the selection / promotion process in which you participated as a candidate, in your opinion?
  16. What kinds of measures were used in order to guarantee the transparency of the final decision? Have they been applied in the entire university?
  17. Which other measures could have a positive effect on the selection / promotion procedures in order to guarantee objective, fair and unbiased decisions of the selection committee / evaluation board (jury)?
  18. Which other criteria, in your opinion, could be decisive for success in the appointment / promotion procedures?
  19. Do you think that the officially announced criteria are interpreted and applied differently when there is more than one candidate and their scientific achievements are being compared?
  20. What kinds of qualities are necessary for a researcher in order to perform quality research and academic (teaching, supervision, guidance, etc.) work as an Assistant Professor / Associate Professor / Professor?
  21. Do the officially announced criteria reflect these qualities and have they been taken into account in the selection or promotion procedures?
  22. According to statistical surveys the presence of female researchers in higher academic and managerial positions in the natural sciences and engineering, technology and mathematics is low. What are the reasons for that situation, according to you?
  23. How could a woman overcome the difficulties in her career advancement?
  24. What other criteria could be taken into account in selection / promotion procedures in order to improve these disproportions? Could you suggest some?
  25. What other factors could have significant effect on selection or promotion procedures, so as to compromise the objectivity and equal treatment of male and female candidates?
  26. Are you familiar with cases of "nepotism" (a negative practice among those with power or influence of favouring relatives or friends, especially by giving them a position or helping in promotion)?
  27. What is necessary to be done in order to prevent such practices?
  28. Are you familiar with cases in which gender aspects have influenced the acknowledgment of excellent scientific results?
  29. Do you think that some academic positions are more suitable for men / women or are all positions are gender neutral?
  30. Have you ever had the feeling that the criteria applied during the evaluation of the research achievements correspond more to a certain „male“ career model or a specifically "male" professional profile?
  31. Are the documents of the candidates (successful and unsuccessful) publicly available? Does this increase transparency?
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32. What do you think about anonymous / personalized voting in the selection / promotion procedures?
33. What do you think about involving an external and independent representative in hiring / promotion procedures in order to avoid discrimination?
34. What do you think of training members of selection committees / evaluation boards in gender awareness in order to avoid gender discrimination?
35. What do you find positive and negative in the present criteria and procedures for hiring and promotion?

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