No Quality without Equality in Academia
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THE BASIC ASSUMPTIONS

• Situation of scientists in the higher education and research institutions depends on: general conditions of national economy, demographic trends and characteristics of national culture.

• The theories of social network (Castells), stereotypes, complex approach vs. leaking pipeline (Xie and Shauman), habitus (Bourdieu) may be used as a framework for explanation of the gender inequality in academia.
HYPOTHESES:

• An increase of number of women in scientific institutions cannot serve as a simple proof of the diminishing level of women’s discrimination.

• The decrease of funds for education, research, wages of scientists result in a slowdown of academic careers, measured by time intervals between earning subsequent university degrees and scientific productivity.

• Different causes and consequences determine gendered trajectories in academia (e.g. different patterns of hiring, determinants of research productivity and access to power structures).
CHANGES IN STRUCTURE OF ACADEMIC STAFF

(1) The increasing proportion of women among students in the last 30 years does not cause the same proportion of women employed in academia (She Figures 2003, She Figures 2006, She Figures 2012).

(2) The worsening situation in the sector of science results in a decrease of the number of men and an increase in the number of women, making the latter „winners among losers” (Siemieńska 2000; 2001, 2008).

(3) External (migration abroad) and internal (within domestic labor market) brain drain in higher education sector and its consequences.

(4) “Unbreakable glass ceiling” for women in decision making bodies in science
Figure 3: Percentage of women in total R&D Personnel relative to the amount of Gross domestic expenditure on R&D (GERD) spent per R&D personnel (in euro), in 2004.


Percentages of women in R&D personnel are in Full Time Equivalents except: HG, PL, FI, NO, FR, CH, NL and LU which are in Head Counts.

Source: complied from Eurostat R&D personnel and Gross domestic expenditure on R&D data.
Proportion of women in grade A, 2002–2010 (%)

Source: WIS database (DG Research).

MECHANISMS HAMPERING PRESENCE OF WOMEN IN ACADEMIA IN RECRUITMENT – MENTORING - PROMOTION

• Stereotypes shaping candidates’ aspirations and conceptions of life careers
• Private life of scientists: partnering patterns, careers of academic couples
• Difficulties in reconciliation of work and private life
• Women’s absence in decision-making bodies in science
MEN’S AND WOMEN’S PARTNERING PATTERNS

USA survey (Schiebinger, L. A. Henderson, S.K. Glimartin – Dual Career Academic Couples (2008): Women are more likely than men to have academic partners (40% versus 34%, respectively. The rate of academic partnering is highest for women in the natural sciences and for men in the humanities. Men are more likely than women to have stay-at-home partners. Women are more likely to be single. Ways of entering universities by partners: dual hires, independent hires, and solo hires.
Reasons for not applying for stipends /grants

*significant differences (on level .05)

Source: „Kariery młodych naukowców” (Careers of Young Scientists) N=871, May-July 2005, face to face interviews
“Family obligations are obstacles in professional work”
(% of respondents who agree and disagree)

*significant differences (on level .05)

Source: „Kariery młodych naukowców” (Careers of Young Scientists)  N=871, May-July 2005, face to face interviews
EVALUATION OF THE PRESENT SITUATION IN UNIVERSITIES

Since the 1990s, an analysis of senior university staff reveals a serious dichotomy in career outcomes for men and women, insofar as men are three times more likely than women to reach the top level positions in research.

On scientific boards women are under-represented in almost all European countries. The scarcity of women in senior positions in such bodies inevitably means that their opinions are less likely to be voiced in policy and decision-making processes, which may lead to biased decision-making and priority setting in scientific research.


DEFINITION OF “EXCELLENCE” IN SCIENCE

Maria Jesús Izquierdo and Francisco José León in their report from 1st international congress 12-14 December 2007: GENDER BIAS AND EVALUATING ACADEMIC QUALITY write:

“The term “excellence” has become one of those buzzwords repeated incessantly in a wide range of spheres…..

“What happens is that de facto a given model of science is taken for granted, without this having been the result of a debate, ….the community is governed by criteria that it has not agreed to democratically. Quality evaluation processes, ... are closely linked to decisions on how to allocate funds..
DIFFERENT CONCEPTIONS OF EXCELLENCE

The authors propose two different conceptions of excellence:

a) **The gradational conception.** From a gradational standpoint, the most valued contributions from a set of contributions that have been placed in a hierarchy according to some evaluative criterion are deemed excellent.

b) **The threshold conception.** From this standpoint, any contribution that reaches a given level of quality, regardless of the number of contributions evaluated that reach this threshold, are deemed excellent.
DIFFERENT CONCEPTIONS OF EXCELLENCE

….. the processes of defining what has value and what does not are not free from the suspicion of responding to the interests of certain social groups. If inequality is present in the university system, we can expect that the determination of what is excellent is made by those who are already in a position of power, …in turn gives them a greater ability to secure resources for their research. … to lay the groundwork for future inequalities in new evaluation processes.
DIFFERENT CONCEPTIONS OF EXCELLENCE

....Other criteria proposed by the authors ...MERITOCRACY AND GROUP JUSTICE

....A MERITOCRACY as the model for allocating resources, the academic assets will land with those who have shown a higher quality in their productions...... If the evaluation processes are biased, the results of the meritocratic criteria are indeed misguided. They would mean allocating more resources to those who are positively affected by the bias....

The alternative model based on criteria of GROUP JUSTICE concerning allocating resources. ... this allocation would not solely be made based on individual merits, but also to ensure access to the resources for certain group as well. (e.g. the balanced presence of both sexes and people from different social conditions

The authors conclusions: IN A SITUATION OF INEQUALITY A TRUE MERITOCRACY IS NOT REALLY POSSIBLE.
WOMEN IN ACADEMIC WORLD – GENDERED BARRIERS

Type of barriers:

• Is it, in general, that the perception of academic career as a traditionally male profession has been defended by research institutions and universities, or, in other words, women are admitted and promoted very reluctantly (institutional barrier)?

• Are women reluctant to engage in academic careers, believing that they would have no opportunities in a profession characterized by specific traits and considered as male-oriented (cultural barriers)?

• Do women dislike to engage in sciences and engineering, because they believe that they are less talented than men in the field of mathematics, physics, so they will not be successful in these fields (individual barriers)?
**Individual predispositions**

The results obtained by girls and boys in the international PISA research, conducted by OECD shows that at present:

- girls and boys at the age of 15 achieve similar results. The situation has changed substantially in the last 50 years.

- gender differences in the test results are also dependent on the country.

- beliefs concerning the profession is based often on the concept of “appropriateness” of some types of career prevailing in the social environment (Xie and Schauman 2003; Sonnert 1999, Valian 1999).
GENDER-BASED DISCRIMINATION IN THE ACADEMIC WORLD

There are no legal regulations that would allow for different treatment of women and men. In reality, there are still some subtle forms of gender-based differential treatment in science.

As Shapiro describes e.g. “nonactionable discrimination” (the broad range of activities that constitute subtle discrimination.)
DIFFERENT FACES OF DISCRIMINATION

Yenstch and Sidermann (1992) list such factors as:

**Exclusion** - lack of access or limited access to the informal scientific networking.

**Condescension** - belief that women have to be protected against the harsh reality and men’s worries about the qualifications of women as managers.

**Role stereotyping:**...”Fitting the stereotype of wife and mother leads to perceptions of lack of commitment to science.

**Tokenism** - Women must endure judgments of all of their actions by their male colleagues...as somehow typifying the actions of all women.”.

**Hostility** can have its roots in fear of being displaced or being bested by a female competitor.

**Sexual innuendo** - when male scientists focus on women as sexual objects rather than professionals.
WOMEN IN LEADERSHIP POSITION IN SCIENCE: POLISH CASE

Women are almost absent on the top administration positions in the best higher education institutions.

Table Women as decision makers in higher education institutions (% of total in each category in the institutions) in 2012

<table>
<thead>
<tr>
<th>Higher education institutions:</th>
<th>Presidents N=10</th>
<th>Vice - presidents N=42</th>
<th>Deans N=117</th>
<th>Vice - deans N=365</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-10 positions in the national ranking</td>
<td>10.0</td>
<td>9.5</td>
<td>15.4</td>
<td>26.6</td>
</tr>
<tr>
<td>Higher education institutions</td>
<td>Presidents N=10</td>
<td>Vice - presidents N=21</td>
<td>Deans N=37</td>
<td>Vice - deans N=60</td>
</tr>
<tr>
<td>80-90 positions in the national ranking</td>
<td>10.0</td>
<td>38.1</td>
<td>18.9</td>
<td>40.0</td>
</tr>
</tbody>
</table>

Author’s calculations
AWARENESS OF DISCRIMINATION: GERMAN AND POLISH CASES

Fig.: Perception of gender inequality in public sphere and academe by full professors in Germany and Poland in 2003 (in %)#

<table>
<thead>
<tr>
<th>Situation in Academe</th>
<th>Poland Women</th>
<th>Poland Men</th>
<th>Germany Women</th>
<th>Germany Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women prefer men to occupy top positions *</td>
<td>11</td>
<td>9</td>
<td>32</td>
<td>31</td>
</tr>
<tr>
<td>Women lack specific training *</td>
<td>5</td>
<td>38</td>
<td>33</td>
<td>26</td>
</tr>
<tr>
<td>Women are isolated in a predominantly male environment</td>
<td>23</td>
<td>43</td>
<td>38</td>
<td>42</td>
</tr>
<tr>
<td>Women are prevented from reaching the top</td>
<td>27</td>
<td>35</td>
<td>19</td>
<td>17</td>
</tr>
<tr>
<td>Due to how women are reared</td>
<td>12</td>
<td>27</td>
<td>42</td>
<td>48</td>
</tr>
<tr>
<td>Women lack informal contacts</td>
<td>11</td>
<td>31</td>
<td>38</td>
<td>43</td>
</tr>
</tbody>
</table>

*SITUATION IN ACADEME:

- Women are accepted in leadership positions in the field *
- Women are accepted in positions of professors in my field *
- Women are accepted in positions of leadership in research *
- Women are accepted in top university positions *

#Answers: "strongly agree" and "agree" or *"strongly disagree" and "disagree" depends on the question.

^Study on full professors conducted in 2003 in the project of EC “Women in European Universities”
AWARENESS OF DISCRIMINATION IN TWO GENERATIONS: POLISH CASE

Fig.: Perception of gender inequality in public sphere and academe by “Full professors” 2003 and “Young scientists” (30-40 y old) 2005” (in %)

#Answers: „strongly agree„ „agree“ or * „strongly disagree „ „disagree“ depends on the question.
^ Study on full professors conducted in 2003, on young scientists in 2005
### “Cultural capital” and research productivity

Table: „Cultural capital” of scientists and their research productivity (number of publications in the last two years) (means)

<table>
<thead>
<tr>
<th>Study 2005</th>
<th>Study 2005</th>
<th>Study 2003</th>
<th>Study 2003</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Young scientists</td>
<td>Young Scientists</td>
<td>Professors</td>
</tr>
<tr>
<td>Both parents with higher education</td>
<td>Both parents with higher education</td>
<td>Both parents with higher education</td>
<td>Both parents with higher education</td>
</tr>
<tr>
<td>Men N=130</td>
<td>Men N=310</td>
<td>Men N=60</td>
<td>Men (N=357)</td>
</tr>
<tr>
<td>Women N=106</td>
<td>Women N=431</td>
<td>Women N=66</td>
<td>Women N=401</td>
</tr>
<tr>
<td>Number of publication in Poland</td>
<td>9.3 (8.9)</td>
<td>8.0 (8.0)</td>
<td>10.8 (11.4)</td>
</tr>
<tr>
<td>Number of publication abroad</td>
<td>1.6 (3.1)</td>
<td>1.3 (2.8)</td>
<td>6.53 (7.62)</td>
</tr>
<tr>
<td>Number of publication in Poland and abroad –total</td>
<td>10.9 (10.1)</td>
<td>9.3 (9.1)</td>
<td>17.4 (13.0)</td>
</tr>
<tr>
<td>In brackets: standard deviations</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure: „Cultural capital” of scientists and their research productivity (number of publications abroad in the last two years) (means)
• Socio-demographic determinants of research productivity.

Figure: Research Productivity of Full Professors according to age and gender (means of total number of publications) (study 2003)

Figure: Research Productivity of Young Scientists (30-41 years old) according to age and gender (means of total number of publications) (study 2005)
• Support in academic environment

Figure: Support at Academic Environment of Men and Women (being supervisors, colleagues, collaborators) among young scientists (% of those who received) (study 2005)
GENDER SUCCESS RATE IN POLAND

Fig.: Gender and success rate in receiving research grants from the Ministry of Science and Higher Education in 2007.

Success rate: Percentage of received grants to submitted applications.
Source: author's calculations.
RESEARCH PRODUCTIVITY AND PROMOTION

From the discussion:

“In the physical and biological sciences, many journals do not use double blind, although some have suggested that doing so could have benefits, particularly for women. A 2008 study found that when the journal Behavioral Ecology broke with the norm in ecology scholarship and introduced double-blind reviewing, the publication saw significant gains in the numbers of papers published by women.” (Scott Jaschik “Rejecting Double Blind” , Inside Higher Ed, 31 May 2011)
CONCLUSIONS AND RECOMMENDATIONS

• Women less often applied for grants in general and even in the disciplines where they constitute a large part of employees.
• The fact can be due to the lower positions which they occupy.
• However, it is possible to argue that enough large group of women with doctoral degree is working in research, development and institutions of higher education to submit more applications.
• We might assume (what we know also from some studies) that women face structural barriers in their academic institutions and also non academic restraints (conflict between work and family etc.).
• Women’s situation as grant and stipends receivers is slowly changing. Recently they are more often present among beneficiaries.
• It is necessary to remember that there is almost no institution using quota for women grant receivers or criterion of gender to equalize or to favor women.
RECOMMENDATIONS (cont.)

Changes on macro – level:

• The high percentage of women among graduates at universities requires consideration of needs of local, national and European labor markets, development of educational and research sectors.

• To influence women’s and men’s choices of fields of studies to make women more interested in technical studies and hard sciences because of lack of specialists in the fields at universities and research institutions in other European Union countries.
RECOMMENDATIONS (cont.)

Revision of content of institutional gender socialization starting in kindergarten and primary school:

• revision and systematic screening of school textbooks and other educational materials,

• special training for teachers and school advisors should be a part of the policy,

• additional activities addressed to girls to decrease their psychological barriers against atypical careers.
RECOMMENDATIONS (cont.)

Creation of mechanisms facilitating women’s presence and success in academy:

• Implementation of policy in academy including:

• systematic monitoring criteria of promotion of men and women by special units in scientific institutions;

• attempting creation of gender balanced structures of different scientific bodies
Regulations directly addressed to women:

• longer period for applying for grants and stipends for female scientists who have small children (e.g. actually, the period is extended one year for women who have babies),

• special grants helping women to update their knowledge and research after maternal/parent leave)

• women with small babies participating in workshops, conferences etc. should have right to get support of the employing institutions to cover the expenses of additional person who will take care on the child during the events.

• extended period for evaluation of scientific accomplishments of mothers/fathers with small children;
RECOMMENDATIONS (cont.)

Policy addressed to families of young scientists:

- Young fathers and mothers should have opportunities to place children in facilities (day care centers) organized by scientific institutions or to get from them financial support to place them in other facilities of this kind.

The above list includes main institutional mechanisms which should be developed. In reality the list should be modified and adjusted to specific conditions of countries.
END