WOMEN IN SCIENCE & EDUCATION IN TURKEY

Hayrunnisa Bolay Belen, MD, PhD

Professor of Neurology
Director of Neuropsychiatry Centre
Director of Neuroscience PhD Programme
Gazi University Ankara Turkey
Member of Turkish Academy of Sciences
Women is the key for any change in the society, future generations & developments

Women are underrepresented in many fields

Though more and more women have involved in science in recent decades, the participation women in research, and higher education is still tremendously limited in the world.
THE PRIVILEGE OF WOMEN IN UNIVERSITIES

- The participation rate of Turkish women in the workforce is 28% (less than half the European Union average).
- Yet, the ratio is as high as 50% in the academic and higher education workforce in Turkey.
- In general, both gender are equally represented in the academic field.
PARTICIPATION OF WOMEN IN HIGHER EDUCATION AND ACADEMIC WORKFORCE (2001-2010)

GLOBAL GENDER INDEX 2013
RESEARCH – INTENSIVE UNIVERSITIES

47.5% Turkey
36.7% Sweden
35.9% USA
34.6% UK
31.0% Denmark
23.0% Taiwan
12.7% Japan
WOMEN TEACHING STAFF IN HIGHER EDUCATION over the last 90 years IN TURKEY
The reasons for gender equity in universities in Turkey

- The govermental policy for positive discrimination in education which has began in 1920s.
- Women have also gained the right to give lectures in universities since then (*role models*)
- General attitude in society that the academia is a good occupational option for women and family support
“Everything we see in the world is the creative work of women.

Humankind is made up of two gender, women and men. Is it possible for humankind to grow by the improvement of only one part while the other part is ignored? Is it possible that if half of a mass is tied to earth with chains that the other half can soar into skies?

Our women will be scientists and pass through all education steps as well as men. Then, walking together with men in social life, they will help and support each other.”

Mustafa Kemal Atatürk, 1923
WOMEN TEACHING STAFF IN HIGHER EDUCATION OVER THE LAST 90 YEARS IN TURKEY

- **MEN**
- **WOMEN**

% of total staff: 0% to 100%

Gender equity does not exist at the top academic positions

(2010)
GLASS CEILING EFFECT IN ACADEMIC CAREER

The Council of Higher Education, 2009-2010
GENDER GAP AMONG SCIENTISTS IN EUROPEAN UNIVERSITIES (2006)

64% Men, 36% Women

67% Men, 33% Women

89% Men, 11% Women

Doctoral recipients

Junior faculty

Senior faculty

Men

Women
- Women is not equally distributed in research fields.
- Women prefer biological sciences, whereas men prefer physical sciences.
- Women seem to prefer people-oriented careers and men prefer thing-oriented careers.
THE DISTRIBUTION OF WOMEN TEACHING STAFF ACCORDING TO PROFESSIONS IN TURKEY 2004-2005

[Bar chart showing the distribution of men and women teaching staff across various professions.]

<table>
<thead>
<tr>
<th>Profession</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical</td>
<td>50%</td>
<td>40%</td>
</tr>
<tr>
<td>Social</td>
<td>60%</td>
<td>40%</td>
</tr>
<tr>
<td>Math &amp; Sci</td>
<td>70%</td>
<td>30%</td>
</tr>
<tr>
<td>Literature</td>
<td>60%</td>
<td>40%</td>
</tr>
<tr>
<td>Engineering</td>
<td>70%</td>
<td>30%</td>
</tr>
<tr>
<td>Agriculture</td>
<td>80%</td>
<td>20%</td>
</tr>
<tr>
<td>Art</td>
<td>50%</td>
<td>50%</td>
</tr>
</tbody>
</table>
THE TURKISH ACADEMY OF SCIENCES (TUBA)

- TUBA was founded in 1993,
- A young academy,
- The number of total members are 203 and 9 % are women.
WOMEN MEMBERS OF TURKISH ACADEMY OF SCIENCES BY THE FIELD
THE TURKISH ACADEMY OF SCIENCES-
YOUNG SCIENTIST AWARD PROGRAMME

- TUBA set up the supporting Young Scientist Award Programme (GEBIP) in 2001.
- GEBIP is one of the first of its kind in the world, aiming to foster young outstanding scientists who are at the stage of establishing their own research programme in Turkey.
- Women fellowships of young scientist GEBIP programme is 25 % in the last 12 years (total number of awardees is 289).
**THE SALARY GAP**

Female scientists in the United States earn much less than men, on average, with the difference varying strongly by field.

- **BIOLOGY**
  - Men: $65,000
  - Women: $50,000
  - Average pay gap: 18%

- **CHEMISTRY**
  - Men: $79,000
  - Women: $62,000
  - Average pay gap: 18%

- **PHYSICS AND ASTRONOMY**
  - Men: $89,000
  - Women: $54,000
  - Average pay gap: 18%
NO SALARY GAP IN TURKEY

- Women earn equal salary with men.
- No salary difference based on gender.
- Payments are equal in all fields, not only in education and research.
- According to Turkish Constitution, there is no gender difference in salary.
CONVENTION ON THE ELIMINATION OF ALL FORMS OF DISCRIMINATION AGAINST WOMEN
DECLARATION ON THE ELIMINATION OF DISCRIMINATION AGAINST WOMEN

Article 1 declares that discrimination against women is "fundamentally unjust and constitutes an offence against human dignity". "Discrimination" is not defined.
Article 2 calls for the abolition of laws and customs which discriminate against women, for equality under the law to be recognised, and for states to ratify and implement existing UN human rights instruments against discrimination.
Article 3 calls for public education to eliminate prejudice against women.
Article 4 calls for women to enjoy full electoral rights, including the right to vote and the right to seek and hold public office.
Article 5 calls for women to have the same rights as men to change their nationality.
Article 6 calls for women to enjoy full equality in civil law, particularly around marriage and divorce, and calls for child marriages to be outlawed.
Article 7 calls for the elimination of gender discrimination in criminal punishment.
Article 8 calls on states to combat all forms of traffic in women and exploitation of prostitution of women.
Article 9 affirms an equal right to education regardless of gender.
Article 10 calls for equal rights in the workplace, including non-discrimination in employment, equal pay for equal work, and paid maternity leave.

Article 11 calls on states to implement the principles of the Declaration.
IS GENDER GAP IN SCIENCE DUE TO INNATE NEUROBIOLOGICAL DIFFERENCES?

- Research and meta analyses do not support a significant difference in math abilities or science (education methods, training, performance can overcome disparity & nurture affects)
<table>
<thead>
<tr>
<th>Neurobiology: Cognitive Performances</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Women favors</strong></td>
</tr>
<tr>
<td>Verbal fluency</td>
</tr>
<tr>
<td>Recalling information about events and object location</td>
</tr>
<tr>
<td>Writing, reading</td>
</tr>
<tr>
<td>Fine motor tasks and speech articulation</td>
</tr>
<tr>
<td>Creative thinking, multitasking</td>
</tr>
<tr>
<td>Women</td>
</tr>
<tr>
<td>-------------------------------</td>
</tr>
<tr>
<td>White matter, (10 x)</td>
</tr>
<tr>
<td>‘connections’</td>
</tr>
<tr>
<td>The larger and more active</td>
</tr>
<tr>
<td>frontal lobe</td>
</tr>
<tr>
<td>(responsible for problem-</td>
</tr>
<tr>
<td>solving, planning, decision-</td>
</tr>
<tr>
<td>making), and the limbic cortex</td>
</tr>
<tr>
<td>(regulating emotions, impulse</td>
</tr>
<tr>
<td>control)</td>
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</tbody>
</table>
GENDER GAP IN SPATIAL ABILITIES: INTERACTION WITH CULTURE

- Gender difference in spatial tasks is not observed in the matrilineal society.
- Nurture seems to play an important role in the gender gap in spatial abilities.
- Providing equal education and improving treatment of women at the family level may make a difference.

Hoffman, PNAS, 2011
CONCLUSION

- The participation of women in science and technology needs to be encouraged.
- Women will provide a different perspective for many fields from computing to engineering.
- Will contribute to increase innovation, quality and competitiveness of scientific research.
- Women have advantages for leading and being a better boss!
ACTS FOR IMPROVEMENT

- Increase the public awareness of the "gender gap in science"
- Educate parents and teachers about the "gender similarities"
- Ensure girls that with appropriate educational tools there is no neurobiological limit for math & sci
- Encourage women to pursue directing research and top academic positions (role models)
- Provide mentors, resources to promote young women scientists to stay in the scientific research and academia
- Establish a gender equity in desicion-making boards
- Revise the career description for women (double career)
THANK YOU FOR YOUR ATTENTION