

Beyond the Bias and Barriers
- Women in STEM Careers in Japan-

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Tokyo, Japan, March 8, 2018

Low Ratio of Female Researchers in Japan

- Numbers of Female Researchers are increasing.
2005: 98,700 (11.9%) → 2017: 144,100 (15.7%)
- Ratio of the female researchers are still low, because of its low ratio in the companies and industries (8.2%).

ONLY 15.3% in 2016 → (15.7% in 2017)



Target is 30% in 2020



*Japan's
Numerical Target:
202030*

Ratio of Female Researchers in Japan

Policies & Measures Supporting Gender Equality in STEM Field in Japan

1. **One** Numerical Target, 30% by 2020 (2003)
(30% of female ratio in leading positions in all the area in society)

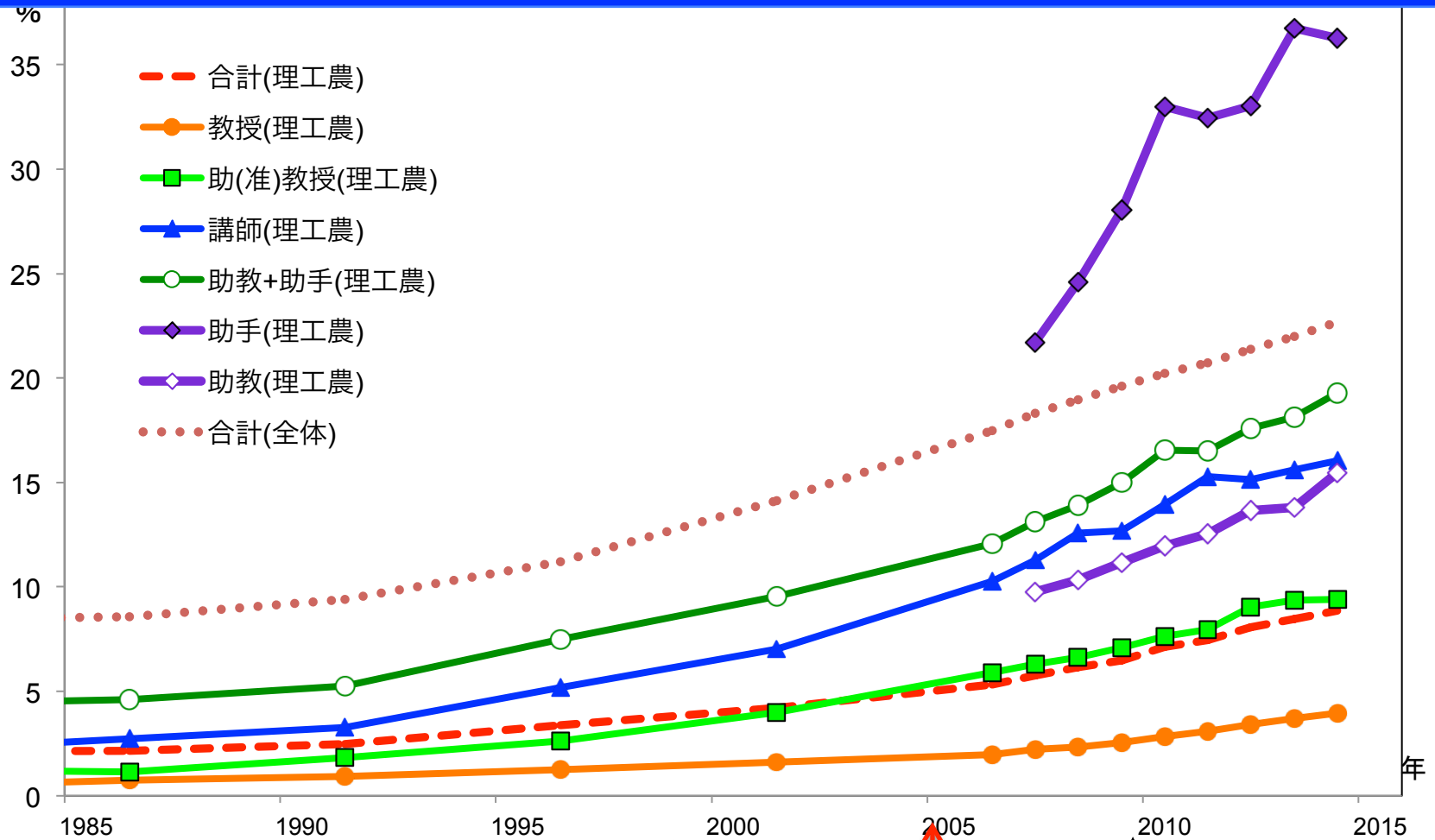
2. **Two** Basic Plans Every 5 years (since 2005, 2010, 2015)
 - 1) The Basic Plan for Science and Technology
 - 2) The Basic Plan for Gender Equality

3. **Three** Programs by MEXT (2006 – present)
 - 1) Supporting Activities for Female Researchers (2006 – present)
Supporting Positive Activities for Female Researchers (2009–2011)
(*“KASOKU”-Program/Acceleration-Program*)

 - 2) Restart Postdoctoral (RPD) Fellowship (2006 –)

 - 3) Support for Female High-School Students into Science(2006 –)

Increase of Female Ratio of Researchers in STEM



Equal Employment Opportunity Law

The Basic Act on Science and Technology

Basic Law for a Gender-Equal Society

The 2nd Basic Plan for Science and Technology

The 3rd Basic Plan for Science and Technology

The 4th Basic Plan for Science and Technology

モデル育成事業
RPD制度
理系選択支援

加速プログラム

Almost 100 Universities/Institutions have been participating in these MEXT Programs. (2006 ~ present)

1. Supporting Activities for Female Researchers (2006 ~)
“Common Programs” among the Institutions → Next slides!!
“Unique self-check system”(2010 – present)
 - Ochanomizu University

Supporting Positive Activities for Female Researchers

“KASOKU-Program”/Acceleration-Program (2009-2011)

Good Examples:

- Kyushu University
 - Nagoya University
- A kind of “Quotas System” brought spillover effects

2. Restart Postdoctoral (RPD) Fellowship (2006 ~)
“Restart from childcare leave”

Various Programs for Promoting Gender Equality

by Nagoya University

Office for Gender Equality, Nagoya University

<http://www.kyodo-sankaku.provost.nagoya-u.ac.jp>

HOME

Sitemap

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Related site

日本語 | 中文 |

Gender Equality Office



Gender Equality at Nagoya University



Upskilling Program for Researchers



Education



Supporting Program

Up-skilling Program

Climate Change

Work-Life Balance



Promoting Work/study-life Balance



On-Campus Nursery Schools



On-Campus After-School Childcare Center



Acalingo / Support for Women Students

On-Campus Childcare After school

On-Campus Nursery

Support for Women Students

Mentoring Program



Mentoring Program for Female Faculty Members



Local Networking



Annual Reports



HeForShe

HeForShe (UN Women)

“Ochadai Index”, A Self-Check INDEX for leveling the field

For research education institutions: a checklist to help build a better work environment for women

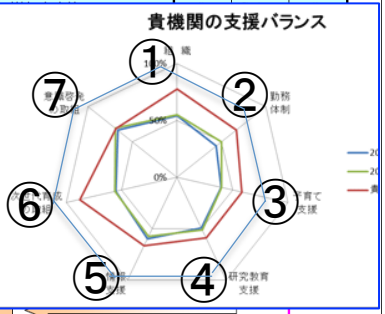
The Ochadai Index

The Ochadai Index was created by Ochanomizu University to measure the level of support that research education institutions provide women researchers. This includes mentoring programs, child-rearing support, and promoting work-life balance. For each of the fifty items below, please circle the appropriate response (I-III) according to the situation at your institution. Your evaluation should be a general estimate. We hope this index will be a valuable reference in the future.

		Check	I	II	III
1. School-wide support system	① Organization	1 Established an organization to support women researchers	No	Doing now	Yes
		2 Established an external evaluation committee	No	Doing now	Yes
		3 Created a system likely to be fair and transparent	No	Doing now	Yes
		4 Created a system to objectively evaluate performance	No	Doing now	Yes
		5 Created a system to actively recruit women	No	Doing now	Yes
		6 Created a system to promote women to management positions	No	Doing now	Yes
		7 Created a target figure according to field for hiring women researchers	No	Doing now	Yes
	② Work system	8 Understand the ratio of women researchers according to field and job position	No	Researching now	Published
		9 Created a budget to support child-rearing	No	Doing now	Yes
		10 Institution has increased work efficiency	No	Trying now	Yes
		11 Created meeting rules (e.g., no meetings scheduled or extended past 5:00 p.m.)	No	Doing now	Yes
		12 Created a set day when staff or faculty can go home at a fixed time	No	Doing now	Yes
		13 Made commonly known that a paternity leave system has been established	No	Doing now	Yes
		14 Done a survey of actual working hours	No	Doing now	Yes
		15 Done a survey about work-life balance of all faculty and staff	No	Doing now	Yes
2. Support for women researchers	③ Child-rearing support	16 Created a room for women to rest	No	Doing now	Yes
		17 Created a multi-purpose restroom or baby nursing room	No	Doing now	Yes
		18 Created a child care facility	No	Doing now	Yes
		19 Created (independently or cooperatively) a day care for sick and recovering children	No	Doing now	Yes
		20 Created (independently or cooperatively) a day care for school-age children	No	Doing now	Yes
	④ Research education support	21 Created (independently or cooperatively) on-campus housing to support child-rearing	No	Doing now	Yes
		22 Created a flexible work schedule to support child-rearing	No	Doing now	Yes
		23 Created a reduced-hour system to support child-rearing	No	Doing now	Yes
		24 Created a telecommuting (work from home) or teleconferencing system	No	Doing now	Yes
		25 Made known the Action Plan to Support the Development of the Next Generation	No	Doing now	Yes
		26 Created a performance evaluation system that considers childbirth and child-rearing	No	Doing now	Yes
		27 Created a consultation service to support child-rearing and research	No	Doing now	Yes
		28 Created a child-rearing scholarship system for undergraduate and postgraduate students	No	Doing now	Yes
		29 Have research assistants support women researchers who are raising children	No	Planning now	Yes
		30 Created a mentoring system to assist women researchers	No	Doing now	Yes
3. Information support (Building an information bank)	⑤	31 Hold seminars, etc., for career development of researchers who are raising children	No	Planning now	Yes
		32 Hold seminars, etc., for career development of research assistants	No	Planning now	Yes
		33 Dispatch information via websites	No	Planning now	Yes
		34 Created booklets to support child-rearing	No	Doing now	Yes
		35 Built a human resource data bank to support researchers who are raising children	No	Doing now	Yes
		36 Dispatch information on role models to support women researchers	No	Planning now	Yes
		37 Cooperate with other campuses and institutions to support women researchers	No	Planning now	Yes
		38 Created a network among women researchers	No	Planning now	Yes
4. Raising awareness	⑥ Generation development	39 Hold lectures on and off campus for middle school and high school girls	No	Planning now	Yes
		40 Dispatch information (via DVD, website, booklet) on role models for school girls	No	Planning now	Yes
		41 Hold get-togethers for role models and middle school and high school girls	No	Planning now	Yes
		42 Hold symposiums and other events for middle school girls	No	Planning now	Yes
	⑦ Raising awareness	43 Inform all staff about support for women researchers	No	Doing now	Yes
		44 Hold seminars and study meetings related to child-rearing	No	Doing now	Yes
		45 Created measures to prevent harassment	No	Doing now	Yes
		46 Raised awareness among men of support for child-rearing	No	Doing now	Yes
		47 Raised management awareness of support for child-rearing	No	Doing now	Yes
		48 Raised awareness about male-female cooperative work	No	Doing now	Yes
		49 Raised awareness of the need to appreciate diverse work styles	No	Doing now	Yes
		50 Raised awareness toward realizing work-life balance	No	Doing now	Yes

USE OF THE OCHADAI INDEX
The Ochadai Index is the property of Ochanomizu University. Except as permitted by law, any reproduction without prior consent from Ochanomizu University is a violation of the copyright.

Women-friendly work environment scale	
Overall rating	Total points
A	80~100
B	60~79
C	40~59
D	20~39
E	0~19



- Since 2010 ~ present
 - In 2016, Excel Sheets to 98 institutions. 41, recovered (41.8% recovery)
 - 50 questions → 100 points
 - Average score: 61.8 points
 - Top: 80 points, Bottom: 17 points
 - Popular items:
 - ✓ Set up the Organization (eg: GE Office)
 - ✓ Offering information support via Homepage
 - ✓ Taking measures to prevent sexual harassment
 - Various use:
 - ✓ self-check and follow changes over the years,
 - ✓ data-based evidence for negotiation to the top.
- <http://www-w.cf.ocha.ac.jp/leader/cosmos/contents/consolidation/ochaindex/howtoochaindex/>

“KASOKU-Program” / Acceleration-Program

Women Researchers Promotion Program by Kyushu University

(2009~2018)

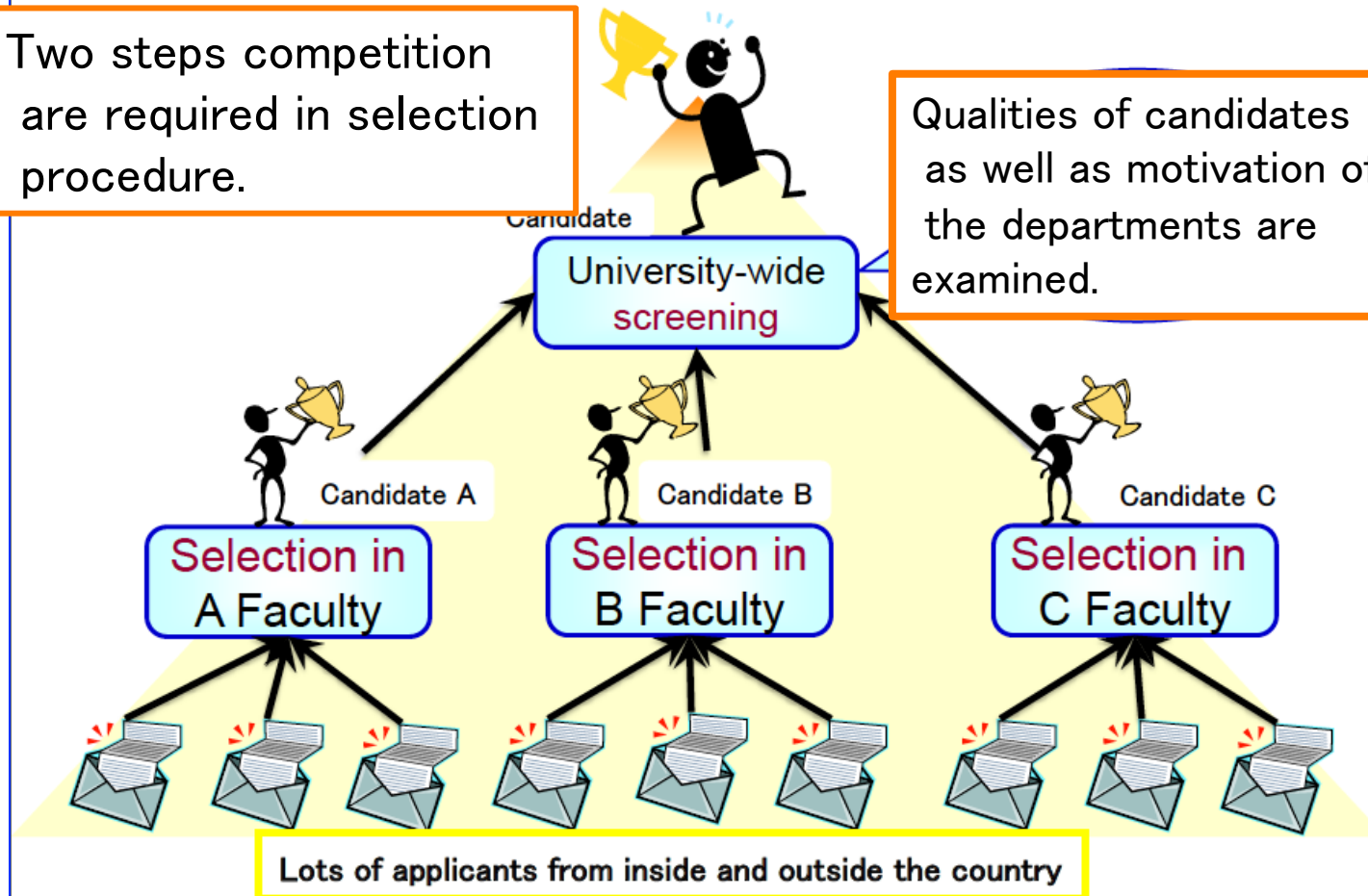


Selection Process

10

Two steps competition are required in selection procedure.

Qualities of candidates as well as motivation of the departments are examined.



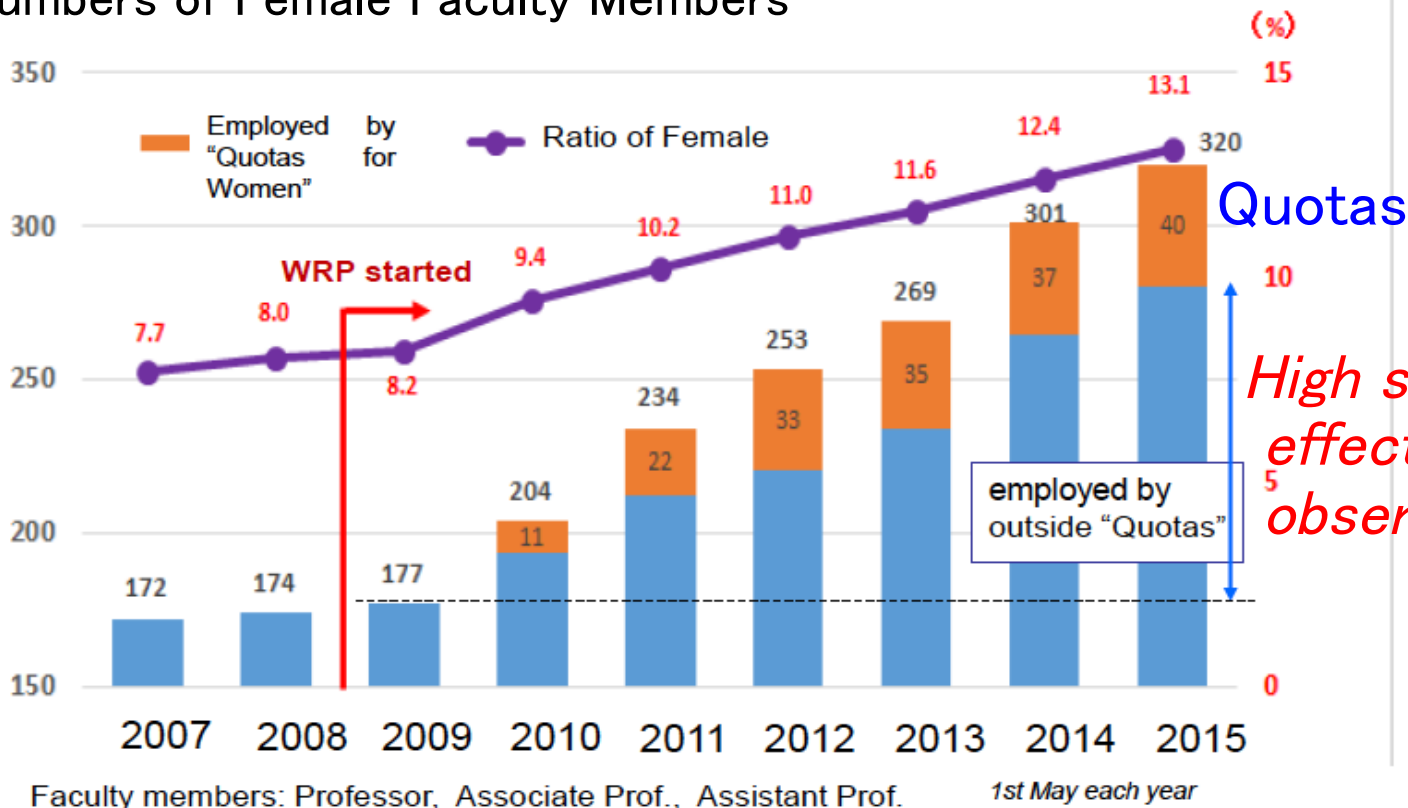
*“KASOKU-Program”/Acceleration-Program
 No one could say any more “Is there any female applicants?” and so on,
 Such as “It is deterioration of academic level” !!*



Increase of Female Faculty Members

18

Numbers of Female Faculty Members

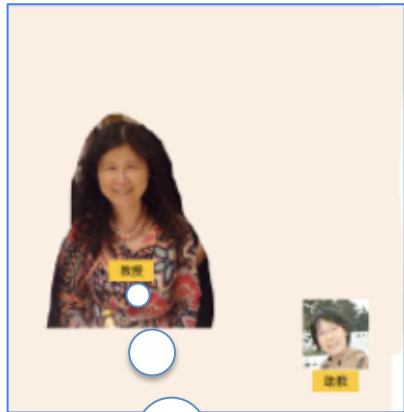


by courtesy of Prof. Eriko Jotaki @ Kyushu University

Drastic Increase in 11 years in Biology Division@Nagoya-U.

Division of Biological Sci., Graduate School of Sci., Nagoya Univ.
<http://www.bio.nagoya-u.ac.jp/introduction.html>

2006



Three is
a magic
Number!



2016

そして 現在 2016年

女性公募による採用

- 文部科学省「女性研究者支援モデル育成」 2007 - 2009年度
- 文部科学省「女性研究者養成システム改革加速」 2010 - 2014年度

女性教員18名(29%)

准教授 特任准教授 (G30) WPI 特任講師

教授 講師 WPI 教授

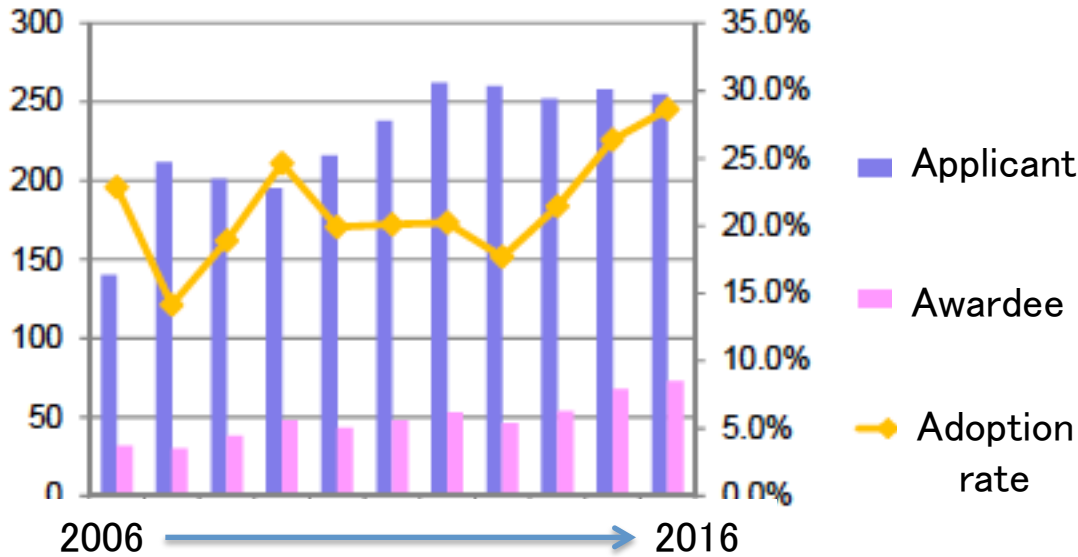
特任助教 助教

特任助教 特任准教授 特任助教 特任助教 助教

by courtesy of Prof. Narie Sasaki @ Nagoya University

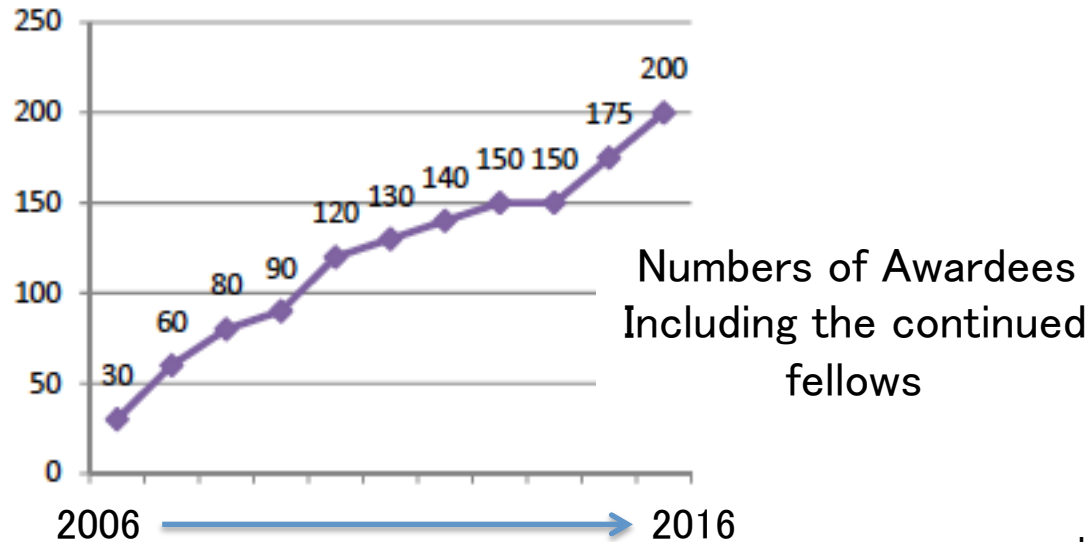
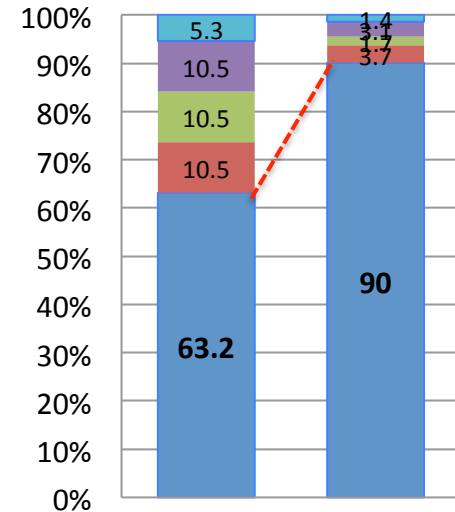
RPD*: Advancement in the past decade

Numbers of Applicants & Awardees



*: **Restart Pstdctoral Fellow**
 ¥ 362,000/month for 3yrs

Jobs after 5 years



- unemployed
- part-time job
- part-time researcher
- postdoc
- full-time researcher

Japan Inter-Society Liaison Association Committee for Promoting **E**qual **P**articipation of **M**en and **W**omen in **S**cience and **E**ngineering (**EPMEWSE**)

The association of 90 academic societies in STEM (2015)

The Major Rolls

- ➔ 1. Large-scale surveys every 5 years
- 2. Proposals and Requests to the Government
- 3. Annual symposium every fall
- ➔ 4. Surveys of female ratio in each societies
- 5. Summer camp & Workshop for high-school girls

WELCOME to EPMEWSE: English Homepage

*Visibility Surveys
of Female Scientists
in Scientific Societies
& Scientific Meeting*

*Large Scale Surveys
every 5 years*



Analysis & Reports



Proposals & Requests

Japan Men a <http://www.djrenrakukai.org/en/index.html>

Home About Us What We Do Additional Resources

Home

Last Update: 07-Oct-2016

WELCOME TO EPMEWSE

In Order to Maximize Our Potential,
We Promote Gender Equality in STEM.



Large Scale Surveys



Proposals & Requests



Research & Surveys



Girls Summer Camps



Japan is well-qualified as a country that promotes scientific advancement. However, the ratio of female professionals in science, technology, engineering and mathematics (STEM) field is at only 14.7% in 2016, which is far behind other developed countries. In order to overcome these gender gaps in Japan over a long period of time, we established "The Japan Inter-Society Liaison Association Committee for Promoting Equal Participation of Men and Women in Science and Engineering (EPMEWSE)" in 2002. At present, EPMEWSE is the association of 90 academic societies in STEM field in Japan, actively working for gender equality in Japan.

Topics

- 14th Annual Symposium in Tokyo (October 8, 2016)



- "Japan's Lagging Gender Equality" has been published in the *Science* journal (Homma, MK., Motohashi, R. & Ohtsubo, H. Japan's Lagging Gender Equality. *Science*, 26 APRIL 2013, VOL 340, pp.428-430.)

Links

- Association for Women in Science (AWIS)
- American Association of University Women (AAUW)
- ADVANCE for advancement of women in science and engineering careers (NSF ADVANCE PORTAL), USA
- Equality Challenge Unit — Athena SWAN, UK
- Gender Equality Bureau Cabinet Office — UN Women

UN WOMEN



50% in 2030

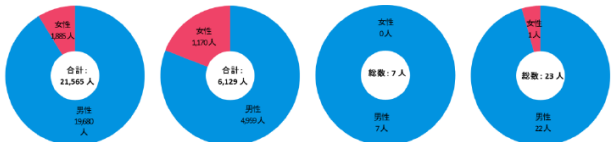
[More >](#)

Visibility of the Female Scientists in Scientific Societies

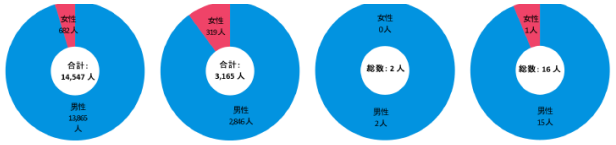
Female Ratio of the Societies (2013)

Are we visible enough in the scientific societies? We see Unconscious Bias everywhere!

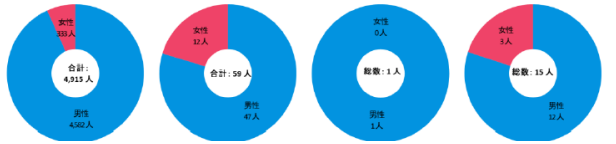
The Chemical Society of Japan



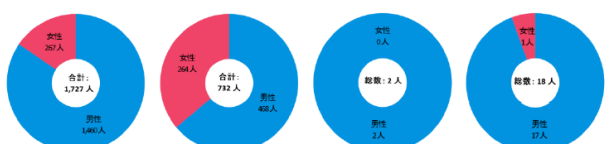
The Physical Society of Japan



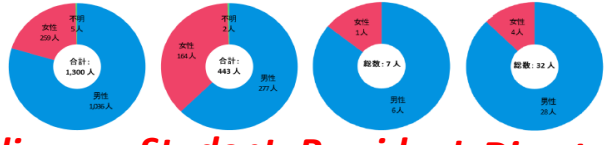
The Mathematical Society of Japan



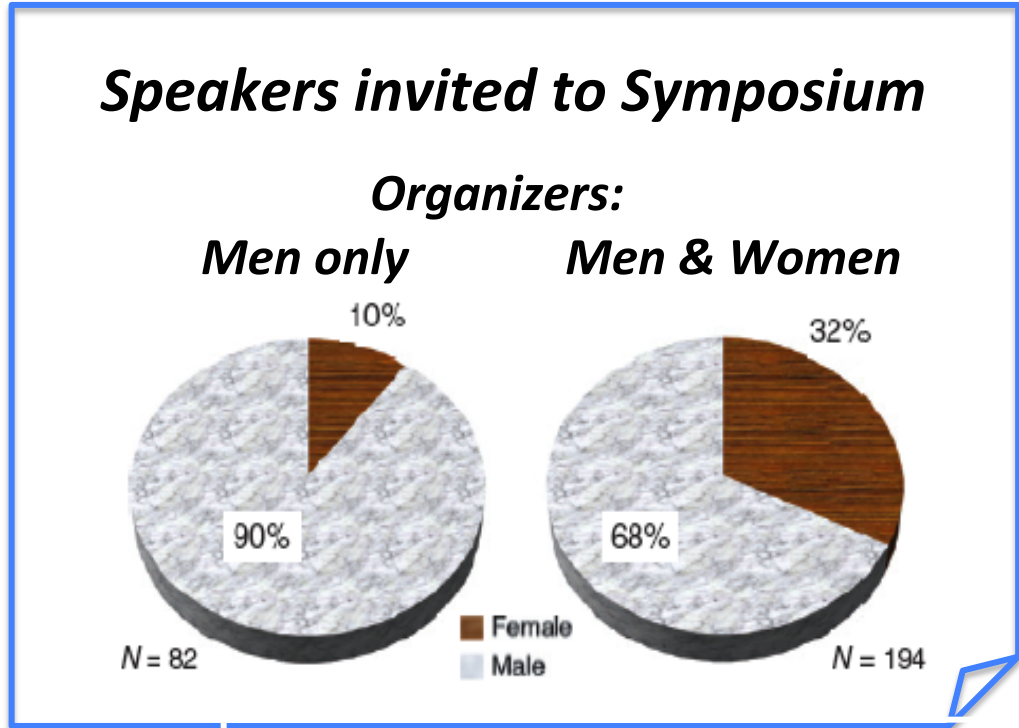
The Zoological Society of Japan



Physiological Society of Japan



Ordinary members / Student members / President / Directors / VPs ← (10/82 have female P/VP.)



Homma MK., Motohashi R. and Ohtsubo H.
Genes to Cells 18(07): 529-532 (2013)

Large-Scale Survey in STEM Every 5 Years

The 3rd Large-Scale Survey of Actual Conditions of Gender Equality in Scientific and Technological Professions August 2013

*81 Scientific Societies in STEM field, Survey was done in the fall of 2012
Numbers of respondents: **16,314** (Male 11,958 & Female 4,356)
http://www.djrenrakukai.org/doc_pdf/3rd_enq_report_en.pdf*

Contents of the Report:

Chapter 1 Summary of Results

Chapter 2 Gender Gap in Job Positions

Chapter 3 Child and Nursing Care

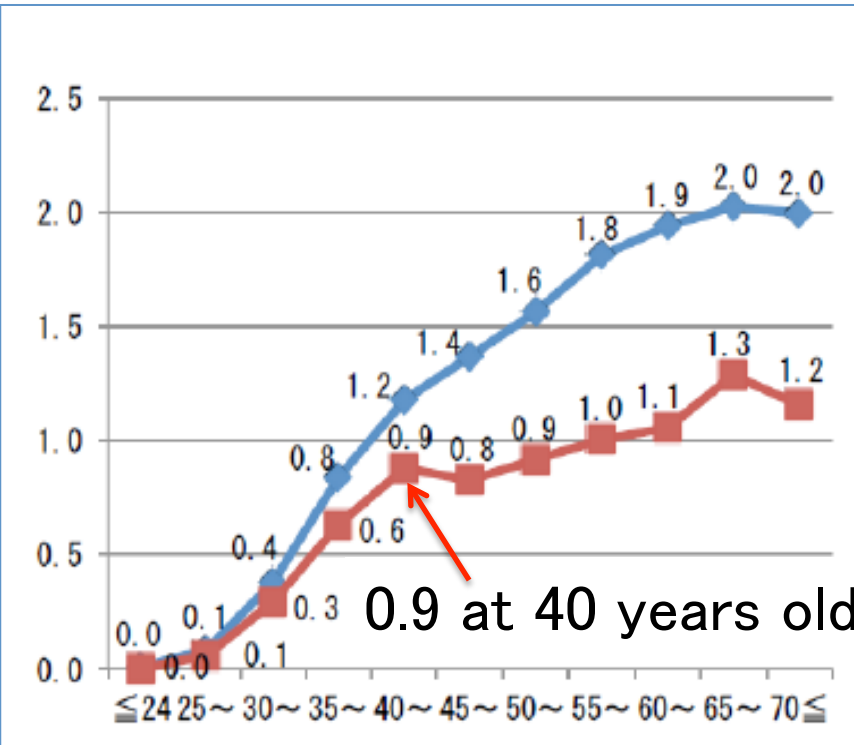
Chapter 4 Limited-term Employment and Postdocs

Chapter 5 Programs and Policies

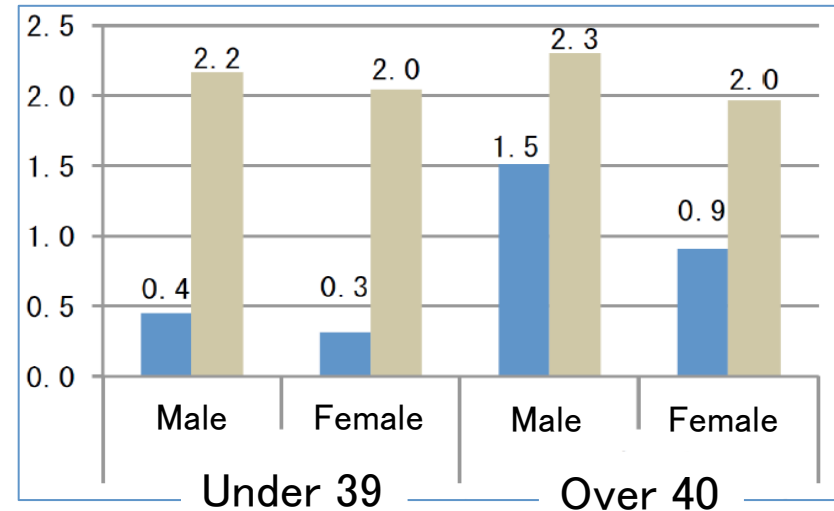
Chapter 6 Written Comments

Numbers of children in younger generation

Numbers of children



Numbers of children they wish and they could



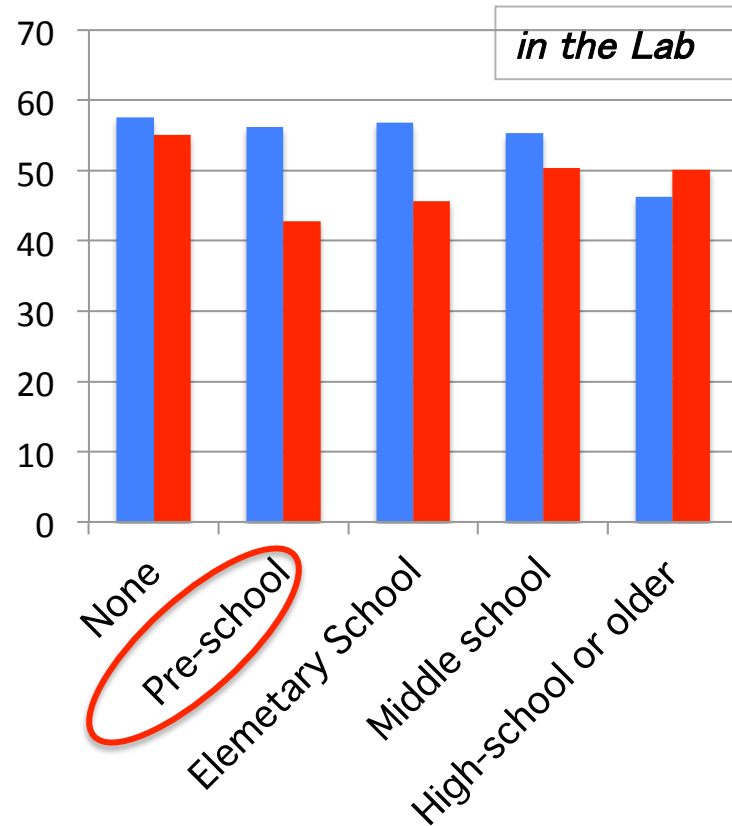
More than two children are desired, but it is difficult for younger generations.

The reasons why they do not have children

- Men → financial matter
- Women → difficult to maintain career and family

Heavy family responsibility to women's side (2007)

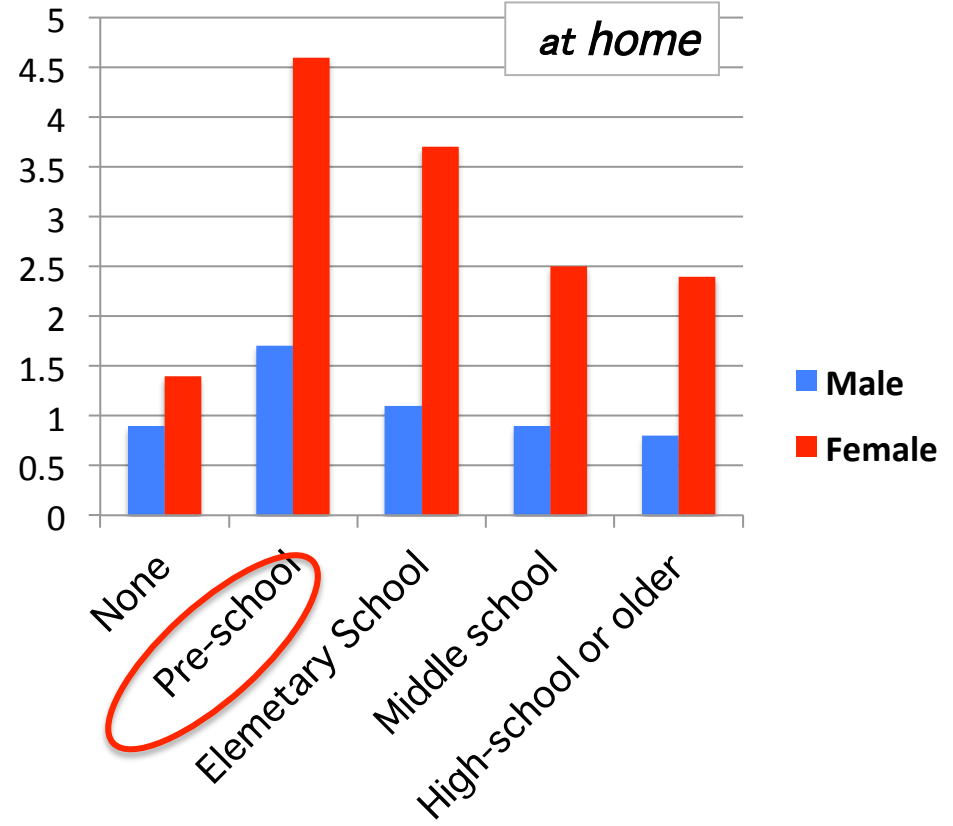
Hours at workplace per week



Female < Male

**Shorter working hours
(11-14 hrs/week) in the Lab**

Hours for household & childcare per day



Female > Male

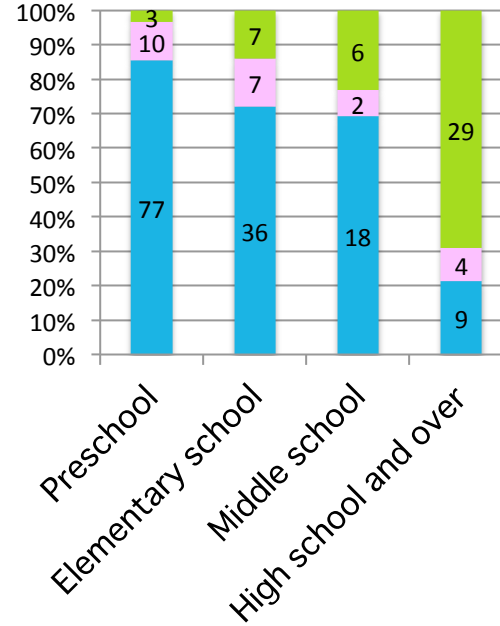
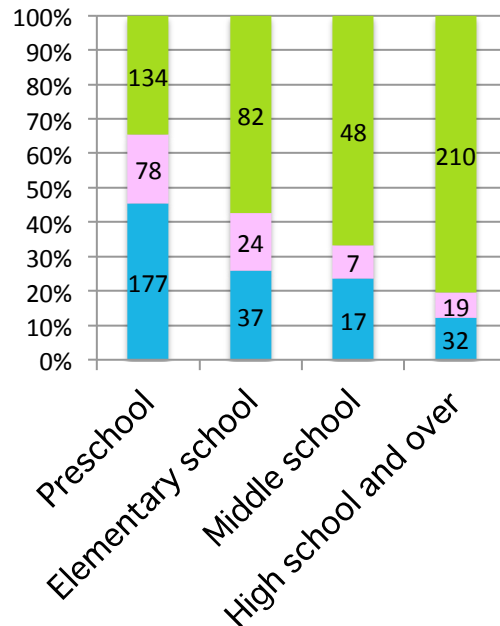
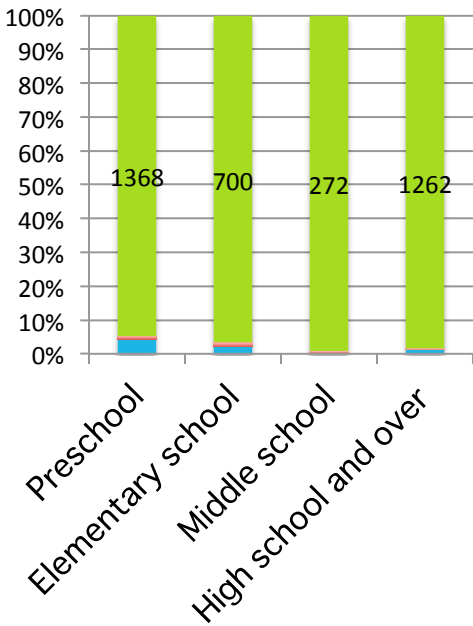
**Longer working hours
(20 hrs/week) at home**

Childcare Leave: The rate is increasing, but . . .

Male (Universities)

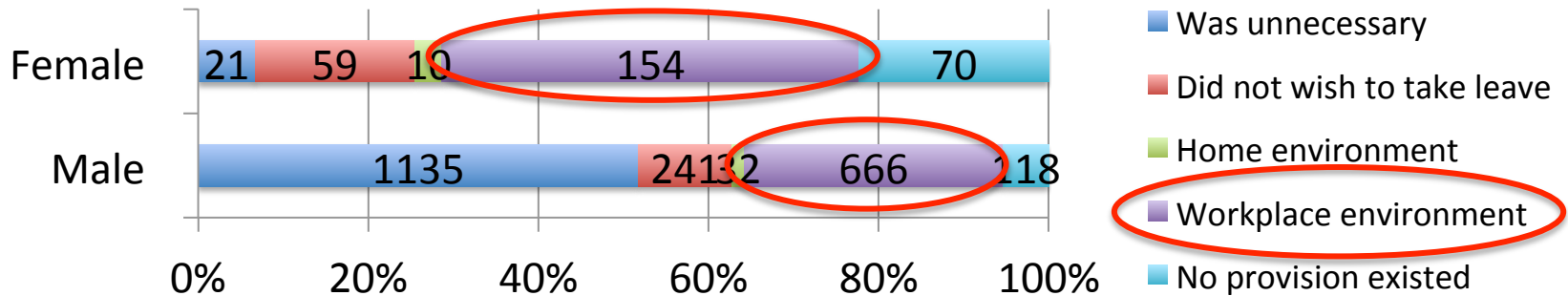
Female (Universities)

Female (Corporations)

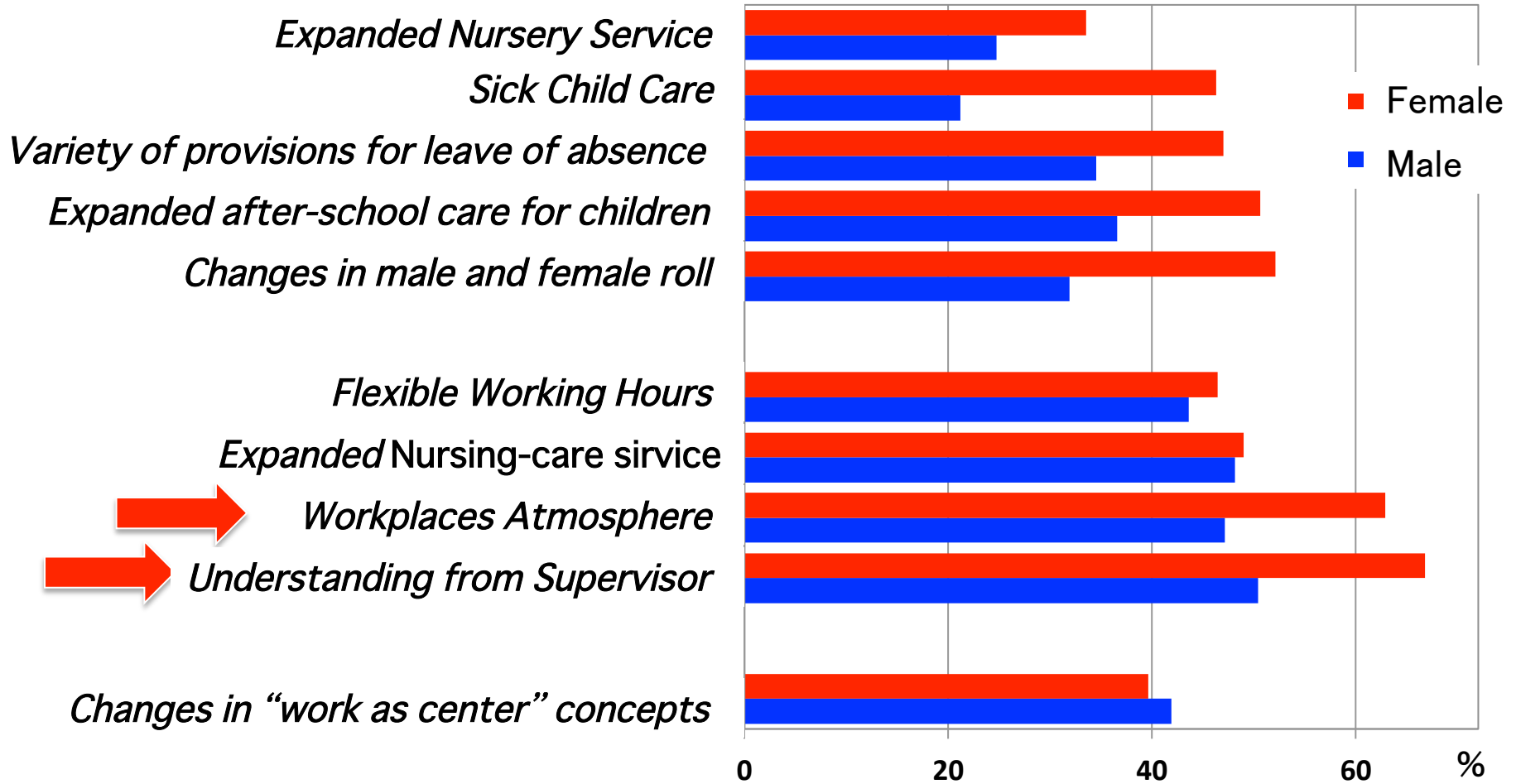


- Did not take leave
- Took leave, but not as requested
- Took leave as requested

Why Parents with *Pre-school Children* did not take Childcare Leave!



Requirements for Balancing Family and Work



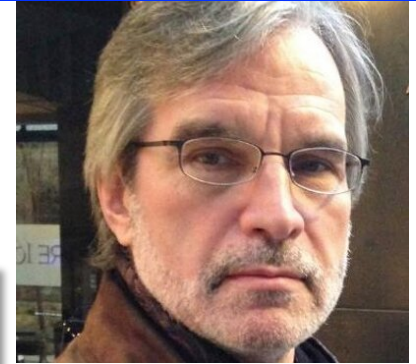
http://www.djrenrakukai.org/doc_pdf/3rd_enq_report_en.pdf

The analysis of "The 4th Large-Scale Survey" has done in 2017.
New data is open in our Homepage (<http://www.djrenrakukai.org/enquete.html#enq>).

“WOMEN IN SCIENCE”, Interviewed by “Science”

Plan to drop goals for women roils Japanese science

Change stirs debate about how to remedy underrepresentation of women



Dennis Normile 記者
(Science)

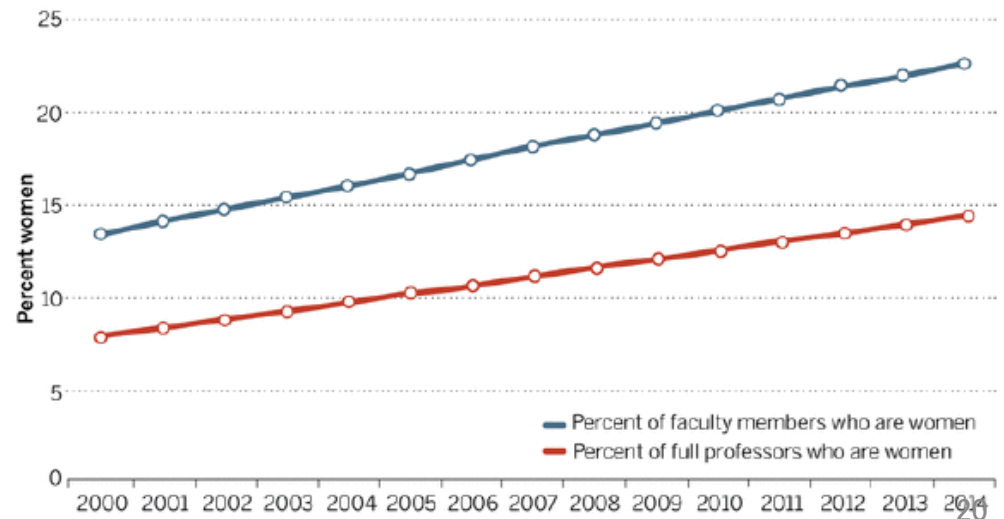
Science 349 Issue 6244
p127-128, July 10, 2015
by Dennis Normile, in Tokyo

“Targets have not had as much impact as we would like.”

Yuko Harayama, Council
for Science, Technology and
Innovation

Stuck on the first rung

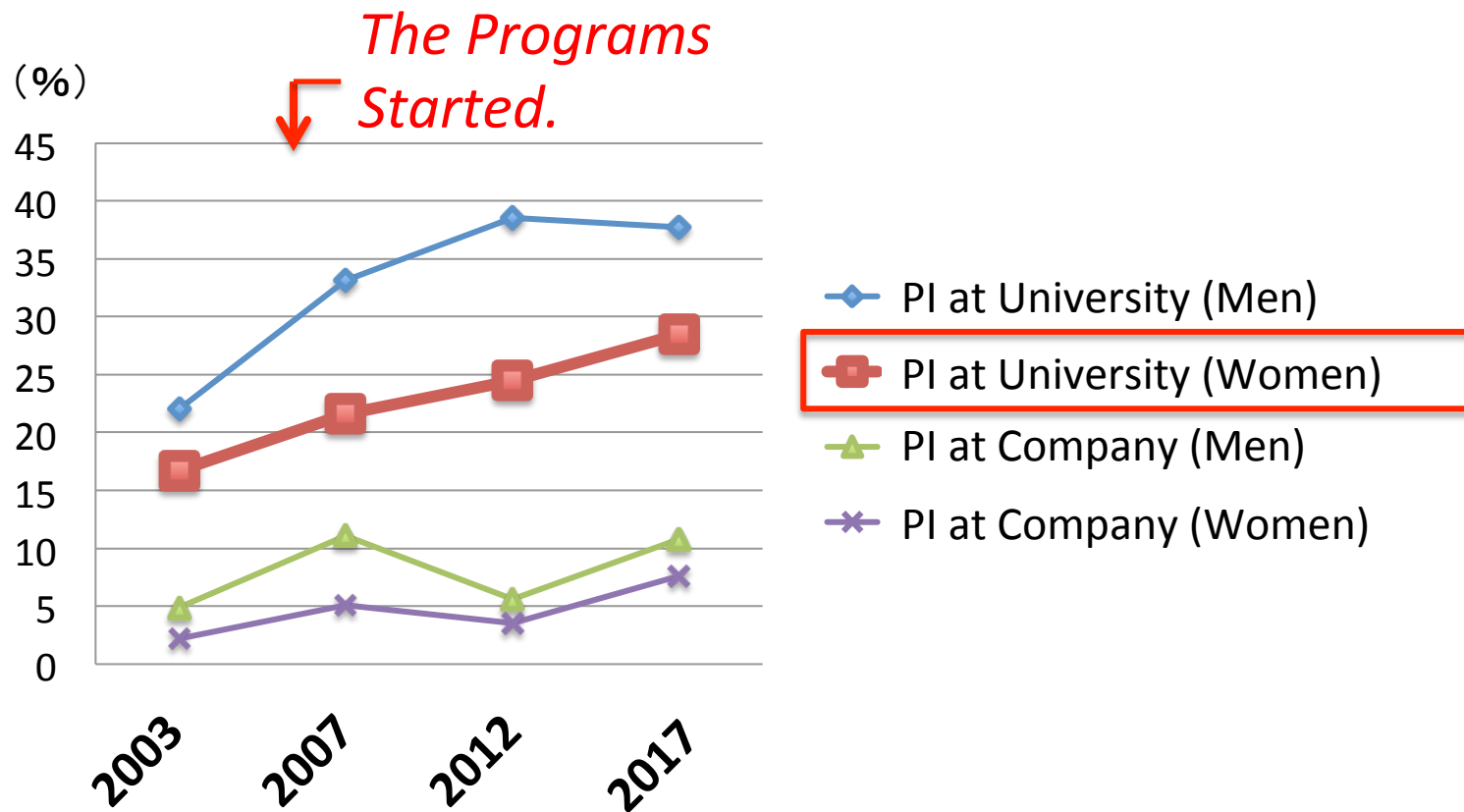
In Japan, women have made up a growing percentage of total faculty members but a smaller proportion is being promoted to full professorships.



“Without numerical targets we’re afraid progress could stall.”

Hisako Ohtsubo, Nihon University

MEXT programs have changed the attitude of Women scientists.



From *the Reports on the 4th Survey*, October 14, 2017

http://www.djrenrakukai.org/report/20171014_15th/4th_enq_report_S.pdf

Leaflet “Understanding Unconscious Bias”

EPMEWSE published the leaflet in order to understand **Unconscious Bias** we face, such as hiring, promotion, awarding and so on.

- *Introduction*
- *Unconscious Bias is a Relatively New Concept.*
- *Unconscious Bias Schema*
- *Unconscious Bias in Action (Examples)*
- *Unconscious is most extreme when...*
- *Implicit Association Test (IAT)*
- *Tools to Interrupt Unconscious Biases*
- *Closing Remarkes*

English version: published in March, 2018

<http://www.djrenrakukai.org/en/index.html>

http://www.djrenrakukai.org/doc_pdf/2017/UnconsciousBias_leaflet_eng.pdf ²²

References

The Large-Scale Survey by EPMEWSE

The 3rd Large-Scale Survey of Actual Conditions of Gender Equality in Scientific and Technological Professions (Survey Report: Concise Summary)

http://www.djrenrakukai.org/doc_pdf/3rd_enq_report_en.pdf

Letters, Articles and Interviews Reports:

1. Homma MK, Motohashi R. and Ohtsubo H.: Japan's Lagging Gender Equality. Science Apr 26; 340 (6131): 428-30 (2013)
2. Homma MK., Motohashi R. and Ohtsubo H.: Maximizing the Potential of Scientists in Japan: promoting equal participation for women scientists through leadership development. Genes to Cells 18(07): 529-532 (2013)
3. Still Less Equal: Japan's government must stick by its promise to help women's careers to prosper. Nature Editorials, 497 535, 30 May, 2013
4. Japan Aims high for growth: Innovation in science is at the heart of government plans to boost the economy. By David Cyranoski, Nature Letters, 497 548, 30 May, 2013
5. Women in Science: Plan to drop goals for women roils Japanese Science: Change stirs debate about how underrepresentation of women. Science 349 Issue 6244 p127-128, July 10, 2015 by Dennis Normile, in Tokyo
6. Yokoyama, M., Ohtsubo, H., OGAWA, M., et al: The Policies Promoting Women's Participation in STEM Fields in Japan from 2006 to 2015.:ジェンダー研究 : お茶の水女子大学ジェンダー研究所年報 (Gender Research Institute: Ochanomizu University. Annual Report) Vol.19 p.175 -192

URLs:

Kyushu Univ.: Women Researchers Promotion Programs, <http://wrp.kyushu-u.ac.jp/eng/busi/index.php#a>

Nagoya Univ.: <http://www.kyodo-sankaku.provost.nagoya-u.ac.jp>

Thank you!



Girl's Day and/or Women's Day in Japan!!