

## **The gender dimension in academic and research careers: some proposals towards inclusiveness**

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In the international debate, multiple reflections have recently been raised on the need to reform the selection and evaluation systems of male and female researchers (Wilsdon, 2017). The objective of these reflections is the enhancement of the diversification of human capital in research, whose potential for innovation and excellence is fundamental to addressing the current global challenges. In this new perspective moves the ongoing reworking of the principles of the European Charter for researchers, or the inclusion of the topic “research careers” in the agenda of the 2021 presidency of the European Union. Also, as announced by Jean Paquet DG for Research and Innovation of the European Commission, those institutions that do not have a Gender Equality Plan with dedicated objectives for achieving gender equality in careers will not be able to participate in Horizon Europe. Gender inequalities in academic and scientific careers are the subject of a large international literature, highlighting the existence of two main phenomena: 1) horizontal segregation, consisting of the under-representation of women in some areas of knowledge, in particular in STEM and 2) vertical segregation, that is, under-representation in the top positions of the academic career (glass ceiling) and overpopulation and stagnation in the lower ones (through the *sticky floors* - “floors that glue” which cause the professional advancement of women proceed more slowly). A phenomenon more recently highlighted (Picardi 2019, Gaiaschi and Musumeci, 2020) and peculiar to the Italian academy concerns the adverse selection of women entering the first structured positions, with the introduction, by the Law 240/2010, of the figure of the RTD and its differentiation in a position with tenure track and one without: in many disciplinary sectors among the recruited RTD-B women are less numerous than men compared to what happens among the RTD-A (*Glass door*, Picardi, 2019).

Starting from the identification of the main existing barriers, this document aims to propose lines of action that can affect vertical segregation, indicating actions aimed at addressing the mechanisms that penalize female careers in academia and research. In fact, as Elisabetta Addis recalled, “excellence is not a variable given in nature, which only needs to be measured, and who are excellent men and women depends on the relationships between the sexes in the scientific community and in society. It is possible to work to change the judges, and above all to adopt different selection criteria and different parameters” (Addis, 2008).

## 1. Barriers

Already in the San Francisco Declaration of 2012, DORA, now relaunched and endorsed by thousands of universities and research institutions around the world, some persistent myths (Hatch and Schmidt, 2020) were identified in the evaluation of research and in the selection of researchers and of female researchers, who act as barriers to the full realization of gender equity in careers, primarily for women. We remember among these:

- Hiring, promotion, and tenure decisions are largely made on merit. When applications are high, it is difficult for evaluators to distinguish the top candidates without resorting to unconscious biases, such as the halo effect or gender bias.
- JIF and other similar journal-based indicators measure research quality. JIF are overall measures to be applied to journals, they do not provide timely information about individual articles or researchers. The same applies to the practice of assessing applicants on the number of publications, regardless of the type of publication, the number of authors or their role in the article.
- Assessment practices will naturally improve over time. Based on the available data, it is estimated that significant improvements will not be achieved for three generations. Many aspects that characterize academic work are not taken into account during assessment as well as the fact that caring work, which does not affect research skills and is necessary for the optimal functioning of society, is still strongly borne by women while penalized by any form of intensive assessment of research.

In particular, the belief that there is a dichotomy between achieving equity and excellence, in recent years also generated by the ambiguous use of bibliometrics in evaluations (Bhalla, 2019), must be eradicated. While bibliometrics appears to reduce evaluator discretion and thus also reduce bias due to gender stereotypes or discrimination, the choice of indicators to be used is never neutral, and can lead to direct or indirect discrimination: for example there are obvious differences in age (think of h-index), number of authors, topic (think of mainstream versus frontier and interdisciplinary research), but also less obvious a priori differences based on gender, in particular on the number of publications and the resulting number of citations (Larivier et al., 2013). In Italy these differences are reflected, for example, in the ASN and VQR indicators (Montorsi, 2019) with a further attention: the repeated application of criteria with even small gender differences can lead to strong biases over time (Addis, 2008).

In this context, gender differences are indicative not only of a different way of working, but also of a greater burden on women of care work. The latest example is the ongoing COVID-19 pandemic, which, by forcing people to work from home, is showing how having caregiving responsibilities, especially with young children, is time-consuming and affects the scientific productivity of researchers and especially female researchers (Myers et al., 2020; Fazackerley, 2020; Kitchener, 2020). On the other hand, the implications of care work which, as is known in Italy, falls mainly on women (Naldini and Saraceno, 2011; Naldini, 2015), can also be beneficial for academic work. The experience of motherhood can in fact allow to develop and strengthen important soft skills at work – such as creativity, leadership, relational (empathy and listening) and organizational (multitasking and problem solving) skills – which should be recognized within evaluation processes (Vitullo and Zezza, 2014; Erkut, 2001; Erkut, 2006; Crittenden, 2004).

More generally, imbalances and inequalities between men and women in academic and research institutions are the result of a complex intertwining of cultural, structural and institutional factors

operating at multiple levels, e.g., individual, organizational, and regulatory (Bozzon et al., 2017; Solera and Musumeci, 2017).

## **2. Areas of interventions**

Policy proposals aimed at achieving greater gender balance in careers at academic and research institutions should aim to act on intertwining of factors listed above. Therefore, they can be carried out both at the level of individual universities, where the role of leadership and internal practices within individual organizations is important in fostering change, and at the national level by identifying and removing obstacles, including legislative ones. In this respect, the Italian situation highlights the need to rethink some aspects of the legislation, if not formally in substance, at least finding room for maneuver in existing legislation.

Also in the light of the following documents already drawn up on the subject:

- National Conference of Equality Bodies of Italian Universities: proposals to Minister Bonetti (January 2020),
- National Conference of Equality Bodies of Italian Universities: proposals to MIUR (2019) regarding access to calls for funding of research projects (in particular PRIN calls) and maternity leave. Fixed-term researchers of type B (RTDB),
- National Conference of Equality Bodies of Italian Universities: “Guidelines for University Gender Balance” (2017) - available at [http://www.cpouniversita.it/?page\\_id=127](http://www.cpouniversita.it/?page_id=127),
- MIUR Working group coordinated by Elisabetta Addis (2018): “Indications for positive actions of the MIUR on gender issues in the University and in research” - available at the page <https://www.miur.gov.it/-/parita-of-gender-in-universities-and-research-institutions-presented-to-the-miur-the-dedicated-document>,
- CRUI - Commission for Gender Issues\_Gender Budget Working Group (2019): “Guidelines for Gender Budgeting in Italian Universities” - available at [https://www2.crui.it/crui/Linee\\_Guida\\_Bilancio\\_di\\_Genere\\_negli\\_Atenei\\_italiani.pdf](https://www2.crui.it/crui/Linee_Guida_Bilancio_di_Genere_negli_Atenei_italiani.pdf), pp. 68 and ss.,
- CRUI - minutes of the meeting of May 16, 2019,

it is proposed that the competent institutions intervene with policies and actions aimed at fostering equity and gender balance in university careers, in particular in the following areas.

### **1) Balanced gender representation:**

- in collegiate and decision-making bodies, and in all governance roles of the universities,
- in competition and assessment committees,
- in the various degrees of the career,
- in the coordination and teams of research projects;

**2) Evaluation:**

- of researchers, female researchers,
- of structures,

through a rethinking of the evaluation criteria that aims at a transition from the evaluation of a few parameters given a priori, to a multidimensional evaluation shared with the individual / the structure during the evaluation process;

**3) Research and training on the gender dimension:**

- supporting research on gender dimension in research and academia and on mechanisms that reproduce inequalities in research and academia,
- awareness raising and training on the gender dimension and mechanisms that reproduce inequalities in research and academia;

**4) Resource allocation for gender equity:**

- to support at institution the policies of gender equity in staff careers, and those of reconciliation and environmental well-being,
- to foster shared interpretation of the tools at a national level, including through the role of equality bodies;

**5) COVID-19, adoption of ad hoc measures:**

to support the categories most sensitive to the effects of the pandemic crisis, such as staff with young children / elderly parents, staff who have had health problems.

Below we identify some proposals for each of the above areas.

**3. Proposal**

In order to share and implement the proposals below, it is first of all necessary to reactivate the permanent collaboration table between the Ministry of Equal Opportunities, the Ministry of University and Research (MUR), the National Conference of Equality Bodies of Italian Universities, and to extend it to other players on the issue, such as the CRUI Gender Commission, or ANVUR as for the analysis and implementation of policies on the gender dimension in careers and evaluation of research and researchers.

**1) Balanced representation of genders:**

- Introduction, among the indicators linked to the awarding of funds to universities, of indicators related to gender equity, in particular as regards the recruitment and careers of personnel and the composition of governance,
- Extension to university Boards of Directors and public research institutions of the legislation regarding the gender composition of investee entities,
- Double preference mechanism in elective type bodies,

- Gender equity in competition committees with the possibility of teaching/research relief for overburdened members,
- Gender equity in the coordination and research teams of funded projects; for example, by making explicit in the call for proposals related reward measures,
- Implementation of mechanisms for rebalancing in careers, such as “cascading” processes in promotions: the presence of a gender in the next grade should mirror that of the previous grade, with particular attention to tenured positions at entry and senior levels, and in governance,
- Introduction of measures to support gender balance positions of responsibility of technical, administrative, and library staff.

## **2) Research assessment:**

- Identify human capital diversification goals prior to the evaluation process, for example by specifying in the calls that applications from women and / or other under-represented groups are considered with particular attention,
- Promote multidimensionality and variability of indicators for evaluation, chosen by the researcher or by the structure when submitting application,
- Peer review of works selected by researchers for individual evaluation, already at the time of qualification,
- Enhancement of teaching, organizational and third mission activities, as well as work done in favor of gender equity, already in the qualification process,
- Enhancement of the care activity, already at the qualification stage,
- Introduction of an 18-month corrective for all forms of assessment over defined periods of time, on the model of the European Research Council (ERC), so that equal rights are recognized and guaranteed in the scientific career of women who choose to also be mothers, allowing fair access to funding for research projects that identify age constraints (eg. Principal - youth line), and in all evaluations (eg. ASN where currently the standardization of indicators is carried out considering only the months of maternity leave actually taken); and of corrections equal to the family / paternity leave actually used in the other cases.

## **3) Research and training on the gender dimension:**

- Transparency and availability of gender-disaggregated data held by MIUR, for example also on number of received applications and the outcomes of ASN, or on VQR, also with respect to role, number of children, membership structure, etc.
- Requirements for Universities and Research Institutions which, starting from the collection and dissemination of data from a gender perspective, provides for planning in a gender perspective integrated into the University governance documents, as well as for allocating the corresponding human and financial resources. Incentivize the universities and research organizations so that the time dedicated to these activities by university staff is recognized and that they are adequately trained,

- Training, held by experts on the subject, of all staff (teachers and researchers, university governance, PTA, ...) and of students to increase awareness of gender imbalances in academic careers and knowledge of what may be the mechanisms and factors that determine them outside and inside the academic organization. Provision should be made for the recognition of the time dedicated by those who participate in training activities in the form of CFUs or provide for this within the Institution's Training Plans with recognition of the time dedicated to it by those who take part,
- Training on unconscious biases for committee members (for profit exams, hiring and promotion, etc.),
- Raising awareness of the positive effects of a balanced organization of work from a gender sensitive perspectives and attentive to work-life balance.

#### **4) Allocation of resources for gender equity:**

- Support for gender rebalancing policies in different roles: for example, rewards for institutions that have a gender equality plan with specific gender equity objectives  $\theta$  in careers, through one or more specific indicators in the three-year strategic programming (PRO3), FFO, ...
- support for policies of reconciliation of life and work times, equal opportunity policies, and third mission activities related to gender: for example, by rewarding institutions that have a gender budget; through adequate financial support for international mobility of staff with accompanying families; through the provision of dedicated human resources in the staff,
- support for environmental well-being policies, for example through resources to be allocated to upgrading work on university facilities, planned with attention to the needs of all staff
- training, mentoring experiences – including at external agencies – to promote female careers of administrative and technical staff: for example, by providing skills in management, human resources management and leadership, elements of economic and financial planning and management, communication and management of labor relations.

#### **5) COVID-19, adoption of ad hoc measures**

- Grants to support teaching and research by recruiting staff who can assist teachers and researchers in various activities according to specific needs, for example: teaching tutoring to support the study path of teaching students, collaboration in the preparation of visual and digital course materials, participation in exam sessions, tutoring activity for dissertations, desk research, text editing, etc.,
- Economic resources for encouraging mobility for researcher with children, and to support the costs of summer camps and babysitting services,
- Support for staff with family health emergencies.

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