Lost in translation:

Integrating the gender dimension

in research and teaching in Universities

through Gender Equality Plans

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Abstract

Gender Equality Plans have been widely adopted in the last two years by Italian Universities with an acceleration that was undoubtedly affected by the European Commission requirement for access to Horizon Europe research funding programme, while benefiting from the Horizon Europe guidelines and the guidelines of the Italian University Rectors' Conference.

This paper investigates the process of _institutionalisation of gender_ promoted within Italian academia through the elaboration and drafting of GEP, analysing the translation processes of European policies on gender equality acted by academic institutions.

Amongst the five priority areas included in the Horizon Europe Guidelines, the focus of this paper is the integration of the gender dimension in research and

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teaching. This choice is motivated by the core role of research and teaching in universities and by the authors' assumption that promoting actions related to this area is particularly challenging from a transformative perspective. A methodology to analyse actions in this area is proposed and applied to a sample of Italian universities selected to obtain heterogeneity in terms of geographical distribution and size. The analysis of more than 170 GEPs' actions brings evidence of criticalities in their design in areas crucial to start a transformative process and, at the same time, identifies best practices and suggestions for the adoption of policies at the national or European level to support real change.

Keywords: Gender Equality Plans, higher education, gender dimension in teaching, gender dimension in research.

1. Introduction

The policies promoted by European governance over the past two decades have triggered a number of processes within Member States aimed at achieving greater gender equality in higher education institutions and research centres and facing women's under-representation in science and the highest research and academic positions. Indeed, according to the last figures published by European Commission, women still are 26% of the leadership positions of research and innovation, such as full professors, heads of higher education institutions and members or leaders of boards (European Commission 2021a).

European Commission funding has directed the implementation of programmes initially aimed at increasing the participation of women in research, and later more addressed to activate structural changes within research training organisations to counteract processes that create segregation. Specifically, the guidelines of the last Framework Program for Research and Innovation *Horizon Europe* stress the

role of Gender Equality Plans (GEPs) in providing actions targeted "to promote gender equality in an organisation through institutional and cultural change" and set a GEP implementation as an eligibility criterion to access Horizon Europe funds for the organizations (European Commission 2021b)[1].

In recent years, the gender studies literature has analysed, on the one hand, the changes towards gender equality introduced by these institutional processes (Chappell 2002; Mackay 2006, 2010; Mackay and McAllister 2012) and, on the other hand, the various forms of resistance and opposition to these changes within these institutions (Chappell 2014a, 2014b, 2015; Kenny 2013; Mackay and Waylen 2014). Other scholars have pointed to the limitations of gender equality processes implemented in institutions within the framework of "academic performativity" (Blackmore and Sachs 2003).

In this paper, we investigate the process of *institutionalisation of gender* within academia promoted by the European Commission through the GEP request for adoption as an institutional learning process, analysing how university institutions have "translated" (Gherardi and Lippi 2000) European policy indications in the elaboration and drafting of these documents. The aim is to under-stand how the European indications aimed at achieving greater gender equality in research and higher education through the introduction of GEPs have been re-ceived by Italian universities. In particular, the work explores the re-signification of the concepts of gender and gender equality implemented in the institutional learning processes initiated by the drafting of GEPs, starting from the analysis of the concrete practices that have been chosen to compose the action plan related to this specific thematic area and the justification codes that motivated this

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[1] These guidelines describe a path towards gender equality that recognizes in the route leading to the design and implementation of GEPs four mandatory process-related requirements: a) the public nature of the document, showing the commitment of the institution to gender equality and the actions chosen to reach the goal; b) the presence of dedicated resources and expertise in gender equality; c) the need for dedicated training and awareness raising strategies in the institutions; d) data collection on an annual basis supporting the monitoring and design of (new) actions.

choice. This knowledge is essential to understand the transformative potential of the processes of institutionalising gender in academia and, at the same time, to identify critical issues that could slow down (or hinder) a real transformation towards greater equality in academic institutions once those actions are started for implementation.

According to the guidelines provided by the European Commission, the Gender Equality Plan (GEP) is a strategic plan establishing a set of commitments and actions aimed at: 1) conducting impact assessments/audits of procedures and practices to identify gender bias; 2) identifying and implementing innovative strategies to correct gender bias; 3) defining objectives and processes to monitor progress through indicators. The European guidelines identify five recommended areas to be taken into consideration when defining GEPs actions, which include: 1) work-life balance and organisational culture; 2) gender balance in leadership and decision-making; 3) gender equality in recruitment and career progression; 4) integration of the gender dimension into research and teaching content; 5) measures against gender-based violence, including sexual harassment.

The analysis in this contribution focuses on the topic of integrating the gender dimension into research and teaching content. Even if this subject is less explored in academic gender studies, in our view, the epistemic dimension of the gender per-spective in research and teaching has a significant transformative potential for gender equality for at least two main reasons. The first is that developing gender perspectives in research means, first and foremost, questioning the neutrality of scientific knowledge and its products and that such gender blindness is, in turn, responsible for gender segregation in technoscientific knowledge production pro-cesses. The second reason is that we believe that it is only through the epistemic recognition of diversity (including gender diversity) that science can truly and con-cretely contribute to the design of innovative, sustainable, and inclusive social models (even in scientific institutions themselves).

While scientific institutions had already developed programmes to increase the low participation of women in science at the end of the 1980s, it is only in recent years that organisational institutions have begun to call for the development of a gender dimension in science and technology. Through the approach of the so-called 'Gender innovation', proposed in 2013, the European Commission has implemented the requests of the scholars who have highlighted the existence of gender bias in scientific knowledge itself and in technoscientific artefacts, attributable to the fact that these have been for decades products developed mainly by men. Since then, some research indicated gender diversity as tool to enhance research and scientific knowledge (Nielsen *et al*. 2018).

If EU funding requires analysing the gender impact of research already when drafting a proposal, the gender sensitiveness of national research programmes is less clear and only a limited part of research in EU countries considers the gender perspective (European Commission 2021c; Korsvik and Rustad 2018; Jordão and Diogo 2023). According to *She Figures* (European Commission 2021a, 268-270) at EU level only 1.7% of Horizon 2020 projects did integrate the gender dimension, while in Italy the percentage is 1.5%, even lower than the EU average. This figure should change with the introduction of the gender dimension as a default require-ment in Horizon Europe across all programmes (European Commission 2021b). But what clues emerge from the analysis of the first season of the Italian GEPs to hy-pothesize whether, beyond the figures, this process has solid and promising foun-dations to be implemented in an adequate, effective, and sustainable way?

Finally, the choice of this focus is solicited by the core role of research and teaching in universities, especially on the basis of robust evidence on the lack of implementation of gender equality policies in teaching (EIGE 2016; Tildesley *et al*. 2021; Torrico *et al*. 2023). This study also aims to understand to what extent fem-

inist pedagogy informs practical programmes and theoretical foundation for tertiary education, thus creating the base for integrating gender dimension in research.

To this aim, we analysed more than 170 GEPs' actions proposed by 26 Italian universities, providing evidence of criticalities in their design in areas that are so crucial to start a transformative process and, at the same time, also detecting best practices and suggestions for the adoption of policies at country or European level to support a real change.

2. Institutionalization of gender perspectives in scientific knowledge

What do we refer to when we talk about the gender dimension in scientific knowledge? As early as the mid-1980s, several studies questioned the objectivity and neutrality of modern science, emphasising the practices of concealment of scientists' subjectivity in the exposition of research methodology (Cockburn 1983; Haraway 1988; Harding 1986; Wajcman 1991; Cockburn and Ormrod 1993). In this context, some feminist scholars have analysed the relationship between gender and technoscientific knowledge, while feminist epistemologies and feminist perspectives developed within the sociology of knowledge have highlighted the relevance of gender in defining the principles of scientific method and in the design of sociotechnical devices and their gendered impact (Harding 1991; Berg and Lie 1996; Faulkner 2001; Lie 2003; Wajcman, 2004, 2010). Moreover, recent research has indicated that the inclusion of gender dimensions and the enhancement of diver‑sity in research can be key issues for assessing and grounding accountability in science. Diversity in research teams' composition contributes to generating differ‑ent ideas, beliefs and perspectives in research methods and research questions (Nielsen *et al*. 2018).

Nevertheless, it is only in the last decade that governmental institutions have made the relevance of the gender dimension in the production of scientific and technological knowledge a central issue in European policies for the development of greater gender equality in science. Indeed, over the past decades, European policies for gender equality in research and innovation have initially focused on the low participation of women in scientific and technological research by activating programmes to increase the number of women in science, the so-called 'Fixing the Women' perspective (European Commission 2000). Subsequently, the policy emphasis was on the need to transform institutions, the so-called 'Fixing the Institution' approach (European Commission 2009).

Recently, the 'Fixing the Knowledge' approach emerged as third perspective of interventions for gender equality in science. Since 2011, studies have highlighted the relevance of gender analysis as a factor contributing to developing new ideas and promoting innovation in research (Schiebinger 2011). The report on *Gendered innovation* (European Commission 2013) aimed to provide relevant guidelines for integrating the gender perspective into research priorities and applications. The report describes the gender innovation as "processes that integrate sex and gender analysis into all phases of basic and applied research to assure excellence and quality in outcomes" (European Commission 2013, 9). The intention is to stimulate innovation in the design of new products, processes, infrastructures, services, and technologies to promote human well-being and gender equality, to meet the needs of complex and diverse user groups, and to improve global competitiveness and sustainability. This approach focuses on "overcoming gender bias in science and technology by designing gender analysis into all phases of basic and applied research – from setting priorities to funding decisions, to establishing project objectives and methodologies, to data gathering, to evaluating results, and transferring ideas to markets" (Schiebinger and Schraudner 2011, 155).

The development of 'Fixing the Knowledge' perspective has been supported by the integration of the intersectional perspective (Crenshaw 1991; Collins 1993). The intersectional approach can support the understanding of the variations in health outcomes of research, determine user needs, and ultimately lead to more inclusive research (Faulkner 2004; Weber and Fore 2007). According with the *Gendered innovations 2* report (European Commission 2020a): "Researchers and engineers should not consider gender in isolation; gender identities, norms and relations both shape and are shaped by other social attributes (Buolamwini and Gebru 2018)". This report emphasises the role of intersectionality in innovative processes defining the intersectionality "as an overlapping or intersecting categories such as gender, sex, ethnicity, age, socioeconomic status, sexual orientation and geographical location that combine to inform individuals' identities and experiences" (European Commission 2020a, 17).

Gender segregation by field of studies is also recognized as a challenge in the EU agenda for higher education, which considers "building inclusive and connected higher education systems" as one of the 4 priorities for action (European Commission 2017). Better gender sensitivity in education processes and institutions, together with gender balance in leadership positions and contrast of gender stereotypes are recommended by the European Commission Communication on achieving the European Education Area by 2025 (European Commission 2020b). The need for ensuring equality in the learning experience through gender transformative teaching and learning content, processes and environments, and policies, plans and resources that support equality is part of the UNESCO strategy for gender equality in and through education 2019-2025 (UNESCO 2019).

If GEPs are meant as one of the main tools aimed at transforming tertiary education institutions towards a gender equal environment, engendering both the research and the teaching, and learning process appears crucial. As regards the scope

of the educational process, in particular, feminist pedagogy can play a key role together with inclusive teaching and learning strategies.

3. The integration of the gender dimension in research and teaching through GEPs

On the basis of our experiences as researchers in the field of gender studies in higher education, involved in the GEP implementation in different Italian universities promoted by different European projects[2], and with specific institutional roles in activating gender policies in Italian academia, we note that promoting actions related to the integration of the gender dimension in research and teach-ing is particularly challenging from a transformative perspective. Indeed, scientific institutions find it difficult to identify and implement measures concerning the integration of gender in teaching and research, as it not only challenges the neutral concept of knowledge but also requires a greater awareness of the epistemic impact of the gender dimension in the knowledge production processes; this awareness is not always shared by the decision-making and administrative bodies responsible for implementing institutional change.

The hypothesis of this contribution is that by critically analysing the actions implemented by Research performing organisations (RPOs) on the integration of gender in research and teaching, one can explore the transformative potential that GEPs could activate.

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[2] The authors took part with different roles to the following EU funded research projects: EQUAL-IST (Horizon 2020, Research and Innovation Programme, GERI-4-2015 under agreement No 710549); GENOVATE (FP7-SCIENCE-IN-SOCIETY-2012-1); LeTSGEPs (Horizon 2020 Research and Innovation Programme, call H2020-Swafs-2018-202-under grant agreement No 873072); SUPERA (Horizon 2020, Research and Innovation Programme, call H2020-Swafs-2016-17/H2020-SwafS-2017-1–under grant agreement No 787829), and are members of the Working Group of the Thematic Group on Gender of the Conference of Italian Universities Rectors encharged to write the GEPs guidelines for Italian Universities.

As we mentioned above, the role that GEPs can play in integrating the gender dimension in research and teaching in RPOs is made clear in the *Horizon Europe guidance on gender equality plans* report provided by the European Commission (EU 2021b), which includes this as one of the five priority areas of intervention. The Italian Universities benefited from the GEPs guidelines issued by the Conference of Italian Universities Rectors (CRUI 2021) before the *Horizon Europe Guidelines* on gender equality plans. The aim of the CRUI guidelines was to translate the (general) indications provided by the European Commission into the regulatory context of the Italian academy in order to provide Italian universities with an application framework consistent with the statutes and regulations of Italian universities.

With reference to the Italian academic context, the GEP is a document that defines the University's strategy for gender equality and, in line with gender mainstreaming, is to be understood as the inclusion of a gender perspective in the University's strategic plan. The GEP is a crucial part of university planning and must be synchronised with the Positive Action Plan (PAP) already provided for by Italian law and should be drafted in continuity with the gender budgeting process described in the CRUI guidelines on gender budgeting (CRUI 2019).

4. Methodology and data

This paper consists of a qualitative study of the 170 actions introduced in GEPs published by 26 Italian universities from 2021 to 2022. The analysis aims to understand whether the GEP, as a strategic tool, could mark a concrete improvement in the path towards gender equality in higher education and research institutions through the practical translation of the recommendation for gender integration in research and teaching into specific actions capable of activating transformative processes in Italian academia. In order to analyse the transformative potential of

the interventions proposed in the Italian GEPs that we have collected with regards to the integration of gender dimension in research and in teaching, we have taken into account the overall coherence of the selected actions with the European Commission recommendations, starting with the very definition of this priority area as contained in Horizon Europe Guidelines:

> The integration of the gender dimension addresses the incorporation of sex and/or gender analysis through the entire R&I cycle. This includes setting of research priorities through defining concepts, formulating research questions, developing methodologies, gathering and analysing sex/gender disaggregated data, evaluating and reporting results and transferring them to markets into products and innovations. The integration of the gender dimension is relevant in many R&I fields. Looking at potential sex and/or gender differences and at gender equality related issues brings added value in terms of research excellence, rigour, reproducibility and creativity, brings in-depth understanding of all people's needs, behaviours and attitudes, and enhances the societal relevance of research and innovation (European Commission 2021b, 42).

As far as the integration of the gender dimension in education is concerned, Horizon Europe Guidelines state that "integrating the gender dimension into educational activities, including teaching curricula as well as public engagement, is also crucial for the proper training of the next generations of researchers and innovators" (*ibidem*).

Moreover, with reference to RPOs and public organisations having an educational mission:

> Research performing organisations (RPOs) as well as public organisations with educational missions, such as science museums, can also take similar steps to

ensure that the gender dimension is integrated into the research and educational activities of the organisation. They may also wish to consider the following questions:

- Do prospective research projects include a gender impact assessment or similar, including the scope and design of research and the groups affected by its results?
- Do internal quality assurance and approval processes for research and teaching programmes review whether the gender dimension has been considered appropriately in their design?
- Is there support and leadership in place that enables and promotes the incorporation of sex and gender analysis into research design and reviewing teaching curricula?

Having well-developed, coordinated, and institutionalised gender studies activity in RPOs (including for examples a dedicated department or interdisciplinary research institute, research programmes, licence, master and PhD programmes, accreditation procedures) is also important to provide evidence and inform on the latest advancements in gender knowledge and practice (*Ivi* 43).

Horizon Europe Guidelines refer also to best practices related to the integration of the gender dimension in teaching by drawing from a checklist created by Oxford Brookes University, within the Gearing Roles Horizon 2020 project. This document allows to evaluate the degree of integration of gender in teaching and open up to potential approaches to be followed, also thanks to a series of handbooks with guidelines on how to integrate the gender dimensions in the teaching of specific disciplines or in online teaching proposed by a network of universities (see for example Xarxa Vives[3]).

Through tools provided by the content analysis (Lieblich *et al*. 1998), we analysed the area of intervention "Integration of gender dimension in research and

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[3] https://www.vives.org/programes/publicacions/publicacions-xarxa-vives/

teaching" within the GEP published by 26 Italian universities between 2020 and 2022 that represent about a third of all Italian universities, identifying separately the measures relating to the introduction of the gender dimension in research and in teaching.

The sample of 26 universities whose GEPs were analysed was selected on the basis of its representativeness in terms of geographical distribution and size[4], in order to offer a first glance sufficiently coherent with the composite general framework of Italian academia. The choice to make the territorial coverage of the main Italian geographical partitions a priority also corresponds to the recommendation, stated in the CRUI guidelines, to take into account the need to conceptualise the GEP as a planning tool which must not only guarantee coherence with the general indications formulated at European and national level, but also sufficient flexibility to make it capable of adapting to different territorial contexts, to effectively take into account the different structural conditions of local welfare regimes and labour market, and of the different participation rate, in terms of access and achievement, to higher education. Table 1 shows the distribution of the GEPs analysed according to the geographical location and dimension of the corresponding universities. Taking into account the regional context, 11 GEPs regarded universities in the Northern part of Italy, 7 in the Centre and 8 in the South. The Universities analysed are also heterogeneous in terms of size: 4 can be defined as major (with more than 40,000 students), 7 as large, 9 as medium and 6 can be considered as small universities.

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[4] Classification based on the number of enrolled students: Major = more than 40,000 students enrolled; Large = 20,000 to 40,000 students enrolled; Medium = 10,000 to 20,000 students enrolled; Small = up to 10,000 enrolled students.

University size	North	Centre	South	Total
Major	2		2	4
Large	2	2	3	7
Medium	5	1	3	9
Small	2	4		6
Grand Total	11	7	8	26

Table 1 - Sample of universities included in the analysis by geographical area and size

We then identified, for both research and teaching, the main "types" of actions that group together similar actions proposed by the different universities.

Subsequently, we investigated how gender was conceptualised in the different types of measures investigated related to the area "Integration of gender dimension in research": gender is conceptualised as an object of research, as a research perspective, gender of participants in research groups, and gender in research communication events (Fig. 1).
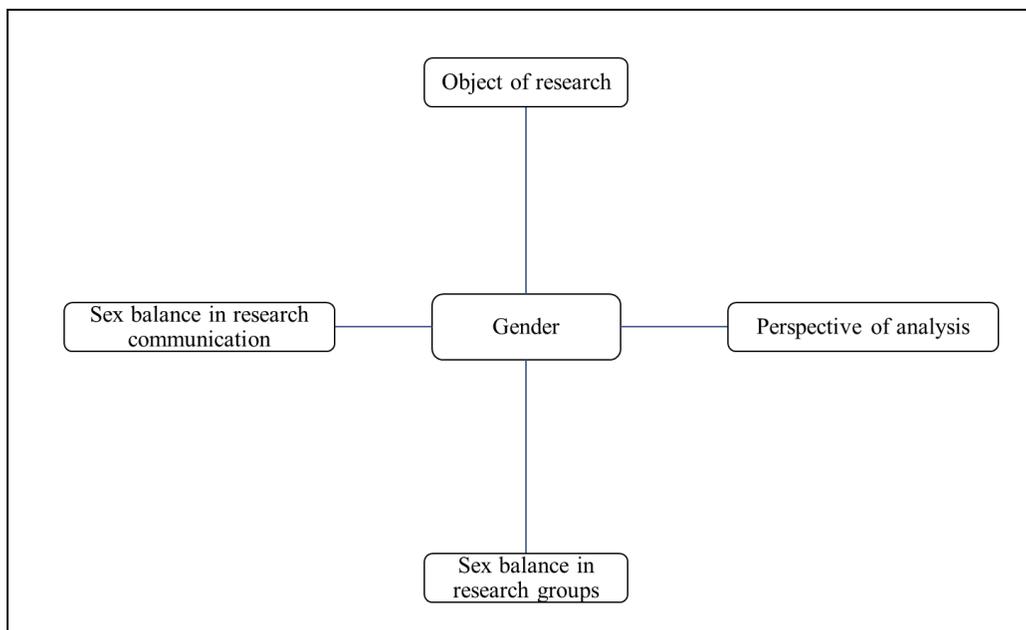

Fig. 1 - Conceptualization of gender in the actions related to the integration of gender dimension in research. *Source*: Authors' elaboration

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Similarly, we examined how gender was conceptualised in the different types of actions related to gender dimension in higher education. The analysis of the actions related to teaching showed that gender is conceptualised in terms of: topic of study in higher education, a perspective of analysis, a perspective of inclusivity in access to higher education, a perspective of inclusivity in teaching methods, gender of researchers in science communication (Fig. 2).
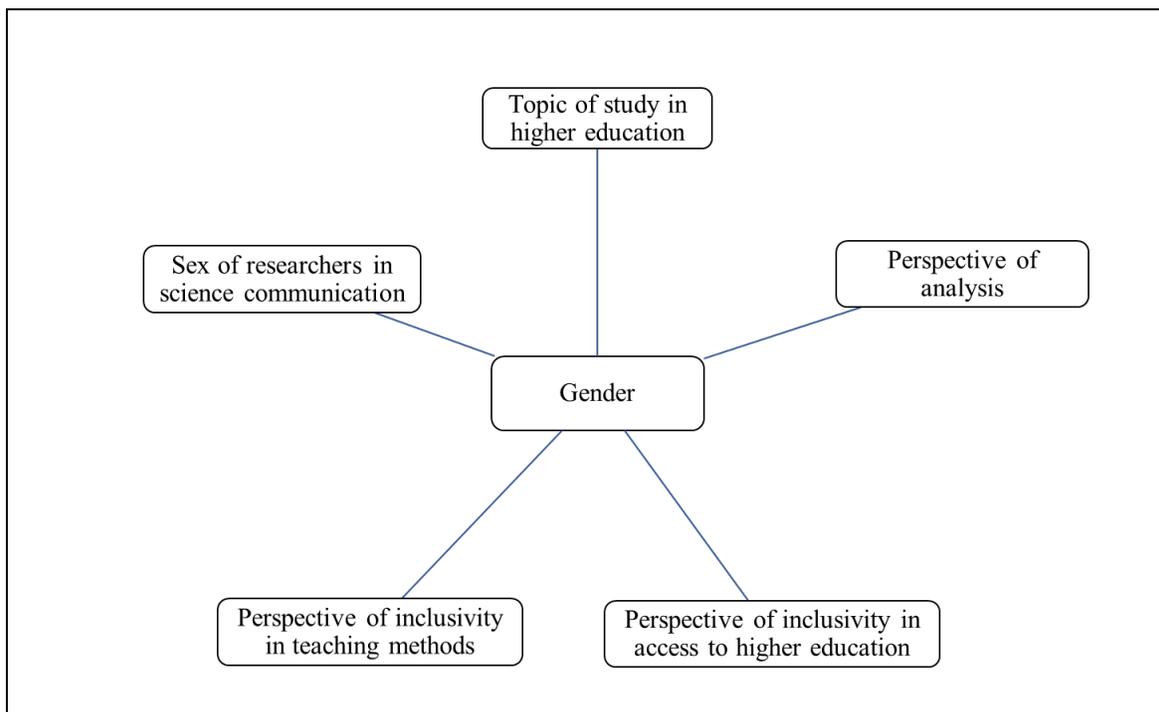

Fig. 2 - Conceptualization of gender in the actions related to the integration of gender dimension in teaching. *Source*: Authors' elaboration

5. GEPs actions on the integration of the gender dimension in research and in teaching: a qualitative analysis

In this section we report the results of our qualitative analysis on 26 Italian GEPs, based on the complete collection of the actions that they propose to integrate the

gender dimension in research (sub-section 5.1) and in teaching (sub-section 5.2), and their classification according to a specific grid that we have created for each area.

5.1 Action to enhance the gender dimension in research

Table 2 shows a total of 111 GEPs actions meant to promote the integration of the gender dimension in research, that have been classified in 4 typologies. The highest number of actions (40%) include "*Gender as a perspective of analysis*", followed by actions (24%) that integrate "*Sex/gender in the communication of research*" (for example by ensuring gender balance in the panel of scientific events or by promoting public engagement activities), by actions (19%) that promote "*Sex/gender balance in the composition of research groups*", and by actions (17%) that assume "*Gender as the focus research*".

Among the actions most congruent with the recommendations offered by the European guidelines regarding the correct way of understanding the integration of gender in research in a structural key, as *a perspective of analysis* applicable to any disciplinary field, 9 main operational declinations emerge from a total of 44 actions, identified among the 26 GEPs analysed. The most recurring ones relate to the necessary training process on the issue of integrating the gender perspective in research targeted to administrative, professional, and technical staff and academic teaching and research staff. This kind of training constitutes the precondition for developing expert know-how, as widespread and shared as possible, in this area, without relying on the expertise already possessed individually by people working at the university, and, even more, without having to rely on individual discretion in giving effect or not to this recommendation and in finding the most effective ways to do it. As many as 10 actions correspond to this objective and, in some cases, the institutional awareness of the relevance of the issue and of the need to act upstream, to counter the under-representation of a gender perspective

in research, is so solid as to extend the training opportunities also for non-structured researchers, for example with the provision of ad hoc PhD scholarships, in order to guarantee this type of basic training from the initial stages of their academic career

Conceptualization of gender	Typologies of Actions	#
Perspective of analysis		**44**
	✓ Awards and scholarships for degree/doctoral theses that enhance the gender dimension in research	12
	✓ Training on the integration of the gender perspective in research for Administrative, Professional, Technical Staff (APTS)/Teaching and Research Staff (TRS) and/or non-structured researchers (also with the provision of ad hoc PhD scholarships)	10
	✓ Inclusion of tools to classify/map research products using gender perspectives	7
	✓ Promote a gender approach in the design, implementation and reporting of research projects (also through the introduction of a reward system)	5
	✓ Provision of a series of lectures/workshops (also in the form of webinars) in which visibility is given to research projects and training methods that are particularly significant from a gender inclusion perspective	4
	✓ Funding post-doctoral fellowships and/or research grants that include the adoption of a gender and/or intersectional approach	3
	✓ Funding internal university competitive calls for research projects with a gender-sensitive approach	1
	✓ Mapping faculty gender research expertise (competencies and skills)	1
	✓ Inclusion of the gender dimension as a specific field to be filled in the university's research project call forms	1
Sex/Gender in research communication		**27**
	✓ Public Engagement	22
	✓ Gender balance in panels at scientific events	5

Sex/Gender balance in research groups		21
	✓ Gender balance in research groups and in the assumption of the role of PI	8
	✓ Introduction of award criteria to reduce the under-representation of women in research groups	3
	✓ Publication on the historical evolution of the University's female component	2
	✓ Promote the participation of new mothers (within 24 months of giving birth) in research projects	1
	✓ Institution of Internal Research Council working group to identify positive actions for encouraging female participation in research calls for proposals	1
	✓ Gender balance in the composition of research project evaluation committees to promote fairer access to funding	1
	✓ Checking the possibility of funding under-represented female researchers to participate in international scientific groups and conferences	1
	✓ Mentoring activities to promote the participation of young female researchers in internal calls for proposals in areas of low feminisation	1
	✓ Mentoring and empowerment activities to encourage female participation in national and international research calls, with particular regard to the roles of Principal Investigator and/or research group coordinator	1
	✓ Provision of a grant to support the research activities of female scholars of the university during periods of maternity leave, aimed at guaranteeing the continuity of research activities and encouraging their return after the leave	1
	✓ Provision of an award and/or scholarship for the best Bachelor's/Master's/Doctoral thesis by female students in STEM discipl.	1
Object of research		**19**
	Training for female students on gender bias and careers	5
	Fact-finding/mapping survey to detect the prevalence of gender issues in research groups or with respect to individual researchers/academics	5
	Promote the creation of multidisciplinary research networks on gender issues	4
	Promote the activities of ad hoc university research centres and/or inter-university observatories on Gender, Equality and Equal Opportunity Studies	4
	Survey on gender stereotypes: orientation project aimed at increasing the gender dimension in teaching or research	1
Total		**111**

Table 2 - GEPs actions on the integration of the gender dimension on research

Moreover, even the guidelines produced by the Conference of Italian Universities Rectors assign a priority value to the measure of training, declaring that:

> The GEP must be supported by training and capacity building. In particular, the training of staff and decision makers on gender issues and equal opportunities is required. Actions may include developing gender skills and overcoming gender bias among staff, leaders and decision makers; the creation and enhancement of working groups dedicated to specific topics; raising awareness through workshops and communication activities dedicated to all stakeholders (CRUI 2019, 19).

Furthermore, precisely to grant the establishment of training programs coordinated by qualified and expert personnel, the CRUI Gender Commission points out "the opportunity to request access to European funds to allow university institutions to acquire dedicated human and financial resources" (*ibidem*).

On the other hand, the use of a 'positive reinforcement' strategy appears to be even more consistent for young researchers who are encouraged to develop these skills on this front, right from the start of their research activity in the strict sense, in occasion of the drafting of their degree and doctoral thesis, through the provision (in 12 cases) of awards and scholarships aimed at rewarding the works and dissertations assessable as 'mature' enough, with respect to the aim of enhancing the gender dimension in research.

The analysis of the GEPs has also highlighted the need for higher education institutions to define an exhaustive framework regarding the presence and distribution of the gender perspective within the research activity produced in the university, both in terms of research products in the strict sense, and with respect to the scientific skills possessed by the human resources working in the various fields of the local academic community. To respond to this need, corresponding to the delineation of a sort of baseline from which to increase the transformative process

aimed at promoting greater gender equality, two main operational strategies were identified, both meant as useful in order to enhance the resources and endowment of human capital already present, but also to highlight the most deprived sectors or disciplinary areas that should be improved: first of all, the adoption of tools to classify/map research products using gender perspectives (referred to in 7 cases), but also, in one case, the action of mapping faculty gender research expertise, in terms of competencies and skills.

In a complementary perspective to the simple recognition of the current situation, we have identified several actions aimed at countering the deficiencies detected with respect to the under-representation of a gender perspective in research. This objective includes two main operational avenues. The first, found in 5 cases, consists in the active promotion, by universities, of practical ways for integrating a gender approach in the design, implementation and reporting of research projects, i.e. in all phases of the research process, from the definition of the cognitive question and the construction of the methodological apparatus up to the actual realisation of the work (in the field or within a specific theoretical-experimental frame) and the communication of its results to the academic community. A valid incentive to obtain this attention from researchers is foreseen in some cases, through the introduction of a reward system for projects that comply with these requirements. The second operational line focuses on other strategies of orientation, solicitation and impulse to consider the requirement of gender integration as a perspective of analysis in research, which are sometimes more binding than the mere valorisation of the voluntary observation of this principle by researchers, as in the case of the inclusion of the gender dimension as a specific field to be (necessarily) filled in the university's research project call forms, and in the preferential funding of internal universities competitive calls for research projects or of post-doctoral fellowships and/or research grants that include the

adoption of a gender and/or intersectional approach, precisely because of the presence of this element, which in 3 cases becomes essential or decisive.

Finally, there is a last operational strategy, that is different from the previous ones because it is aimed at highlighting gender as an analysis perspective in research *ex-post*, when the scientific work has been completed and has been shared and published. It focuses on its dissemination and enhancement of its impact, for inspirational and exemplary purposes, through the provision of a series of lectures/workshops (also in the form of webinars) in which visibility is given to research projects and training methods that are assessed as particularly significant from a gender inclusion perspective (this action was made explicit in 4 cases in the context of our analysis).

Proceeding with the second most populated typology of operational strategies included in the GEPs that we have analysed, with respect to the objective of integrating the gender dimension in research, Table 2 shows a field called *Sex/Gender in research communication*, which includes 27 actions. While 5 of them are focused on the promotion of gender balance in panels at scientific events, a significant part (22 actions) regards public engagement activities. In fact, this abundance of practices aimed at establishing a dialogue with their wider contexts of reference corresponds to the so-called 'third mission' in higher education, which entrusts universities with the task of acting as strategic actors for promoting the European founding principles of inclusivity, social justice, equal citizenship, especially from a gender-sensitive and intersectional perspective.

A similar awareness about the relevance of the gender factor, not only with respect to its balance as an ethical principle of equality, but also in the light of its essential contribution to the advancement of scientific production and to the enrichment of perspectives and potential impacts produced by the research excellence, guides the 21 actions included in another typology of operational strategies shown in Table 2. In this case, the proposed measures are devoted to *improve the*

sex/gender balance in the composition and organization of the research teams and in the attribution of PI role, that is connected to a set of management and coordination functions and to the acquisition of a reputational capital which in academia continues to show a profound asymmetry (at least numerically) between men and women, at the top of the majority of scientific fields. Our analysis has distinguished 11 main operational declinations of this objective, which do not directly address the issue of the integration of a gender perspective in research content but propose a set of practices to achieve a gender-balanced participation in research work, at all levels, including the top and best financed ones.

In particular, the actions most frequently found in the GEPs analysed are expressly aimed at favouring a greater gender balance in the constitution of research groups and in the attribution of organizational roles within them, with specific reference to the assignment of the leading position of Principal Investigator, which constitutes a criterion for evaluating the scientific performance of individual researchers, which can be used for the purpose of consolidating their CVs. Precisely because of the close connection of this element with the mechanisms of recruitment and career progression, particularly in Italian universities, most of the actions included in this typology actually pertain to another thematic area prescribed for the elaboration of the GEPs, that is related to the fight against horizontal and vertical segregation in academia. Nonetheless, in 8 cases an action expressly intended to balance the gender composition in research projects is envisaged within this specific set of practices, starting from the monitoring of data disaggregated by gender relating to the assignment of competitive research projects, the success rate, the amount of the research funding obtained, the presentation of publications and the filing of patents, while in 3 other cases the introduction of award criteria to reduce the under-representation of women in research groups is taken into consideration, also drawing inspiration from the reconstruction of the historical evolution of the university's female component.

The formulation of the other strategies aimed at the same balancing purpose acts both on an individual and on a structural level. In particular, under the first profile, some measures based on the improvement of personal self-esteem appear interesting, in order to contrast gender stereotypes and generate empowerment in female researchers, to encourage them not to neglect any opportunity in terms of competition in the academic arena. This could take place, for example, through mentoring programs aimed in general at encouraging female participation in national and international research calls, with specific regard to the roles of Principal Investigator and/or research group coordinator, or, in particular, at promoting the participation of young female researchers in internal calls for proposals in areas of low feminisation, typically the STEM ones, with respect to which the provision of an award and/or scholarship for the best Bachelor's/Master's/Doctoral thesis by female students may also be envisaged.

From a structural point of view, however, the proposal to institutionalise this practice in university governance appears equally significant, providing for the establishment of an internal Research Council working group aimed at identifying positive actions for encouraging female participation in research calls for proposals, and at including them in compulsory and binding strategic documents, such as the PAP. To remain on a structural level, the issue of gender balance is also addressed with reference to the composition rules of evaluation committees called to judge the research project proposals, if a more balanced female representation on the other side of the chair can also promote fairer access to funding by men and women.

The issue of rebalancing investment opportunities in research, in a gender-sensitive way, can also go beyond the narrow borders of the composition of local research groups, and extend to wider areas, for example by checking the possibility of funding underrepresented female researchers to participate in international scientific groups and conferences, as yet another investment aimed at promoting less

segregated career progressions. Finally, *ad hoc* measures have been included in some GEPs to counter one of the most pernicious mechanisms that act on the greater difficulty for women to break the glass ceiling in good time, namely that of the difficult balance between family responsibilities and work commitments, which too often imposes the inevitable renunciation of career opportunities or slowdowns: for example, these are measures aimed at promoting the participation of new mothers (within 24 months of giving birth) in research projects, or at providing a grant to support the research activities of female scholars during periods of maternity leave, in order to guarantee the continuity of their research activities and encouraging their return.

The last typology of operational strategies proposed in this area assumes the gender dimension mainly as an *object of research*, therefore as a specific content rather than as an analysis perspective to be integrated in a structural and transversal way with respect to the various disciplinary fields. Our analysis identified a total of 19 actions of this type, which we distinguished according to 5 main modalities. The first, found in 5 cases, consists in the administration of a fact-finding/mapping survey to detect the prevalence of gender issues in research groups or with respect to individual researchers/academics, intending the gender factor precisely as the content of the scientific production, whatever the chosen thematic declination and the disciplinary frame of reference. In another case, this general detection involves a specific content, proposing to focus the survey on gender stereotypes, like an orientation project aimed at increasing the gender dimension in teaching or research. On the same specific thematic axis there is also a third category of actions, proposed in 5 cases, and referring mainly to students, rather than to academic research staff, i.e. the organization of training activities for female students on gender bias and careers. In this case the gender factor also acts in the composition of the reference target of the training activities, and pursues a purpose of empowerment and awareness raising of the female component involved in

the educational process in every disciplinary area of the university. The last two modes of action, within this typology, instead envisage an explicit institutional commitment in the impulse to carry out high-profile research activities focused on gender-sensitive topics, specifically through measures aimed at promoting the creation of multidisciplinary research networks on gender issues, or at supporting the activities of ad hoc university research centres and/or inter-university observatories on gender, equality and equal opportunity studies, already existing or planned in the university context.

5.2. Actions to enhance the gender dimension in higher education and teaching

We identified a lower number of actions explicitly dedicated to the integration of the gender dimension in teaching (64 actions with respect to 111 actions on the integration of the gender dimension in research).

Amongst the 64 dedicated actions (Table 3) the highest presence is of actions (45%) in the "Gender as a perspective of analysis" area, then (38%) actions on "Gender as a topic of higher education", 11% on the inclusivity in the access to universities courses (in terms of migrant or refugee status, gender, sexual orientation, and caring role), 5% on inclusive teaching strategies and 2% on valuing women's contribution to research in teaching.

Therefore, overall 83% of the actions analysed can be classified as being concerned with the content of the courses (either entailing gender issues or the adoption of a gender perspective).

The actions we classified as integrating gender as a perspective of analysis in teaching include courses or training activities for students or academic staff on the gender perspective or on the gender dimension in research without referring to a specific discipline. In 4 cases the actions are dedicated to specific disciplines.

Conceptualization of gender	Typologies of Actions	
Perspective of analysis		**29**
	✓ Courses for undergraduate, PhD and postgraduate students on the gender perspective	5
	✓ Training on the gender perspective in research and teach.	5
	✓ Introduction of tools for classifying/mapping courses with a gender perspective	5
	✓ Courses for students on the relevance of the gender dimension in research	4
	✓ Training for TRS on the inclusion of the gender perspective in degree, PhD, and specialisation courses	4
	✓ Training on Gender Medicine (seminars, conferences, advanced training	3
	✓ Feasibility study for the activation of new gender courses	1
	✓ Integration of teaching programmes with gender issues	1
	✓ Gender psychology course	1
Object of study in higher education		**24**
	✓ Planning and implementation of gender empowerment courses (also postgraduates)	9
	✓ Postgraduate training (Masters/PhD) on gender issues	4
	✓ LGBTQI+ inclusion in training for academic and administ. staff*	4
	✓ External valorisation of gender teaching (public engag.)	3
	✓ Degree awards for theses on gender issues	2
	✓ Mapping gender courses	2
Perspective for inclusivity in the access to higher education		**7**
	✓ Financial incentives to encourage more balanced enrolment in gender-poorly represented courses	4
	✓ Geographical and ethnic inclusion	1
	✓ Support and inclusion tools for students with care responsibilities	1
	✓ Scholarships for students seeking international protection	1
Perspective for inclusivity in teaching methodologies		**3**
✓	✓ Inclusive or gender-sensitive teaching modules in teachers' training courses	3
Valuing women's role in research		**1**
✓	✓ Explain women researchers' contribution in the content of curricular teaching in each subject area	1
Total		**64**

Table 3 - GEPs actions on the integration of the gender dimension in teaching
Source: Authors' elaboration

Actions are also dedicated to introduction of tools to classify courses using the gender perspective. Amongst these actions a best practice introduced in a GEP is, together with envisaging a special section within each teaching course description form and within the syllabus in which to specify the use of the gender approach as a methodology and/or content related to gender equality, the acknowledgment of the gender-sensitive profile in the administrative form of the whole degree programme charging for this the Rectoral Delegate(s) for Teaching, the Chairs of the different Degree Programme and the Departmental Delegate(s) for Teaching. This action can result in a powerful tool for the classification of courses and degree programmes in terms of their gender sensitiveness, involving each teacher but also the Chair of the Degree Programme with a positive impact on the visibility of the gender dimension in teaching. Moreover, the involvement of the Rector's delegate(s) for teaching and of the Departmental Delegate(s) for teaching will allow a wider responsibility in the production of this classification that can, in turn, be considered as a point of reference in the assessment of the quality and content of teaching in a gender perspective.

The GEPs analysed show, first, the need of mapping the existing teaching activities in terms of their gender content, then to consolidate existing experiences and, at the same time, to activate further actions aimed at promoting greater knowledge and awareness of gender issues in an interdisciplinary perspective (such as the activation of 'minor' paths transversal to several Departments/Centres). Actions related to the content of higher education can explicitly refer to the introduction of gender studies as well as of gender empowerment courses, also adopting, as a minority of actions do, an intersectional perspective.

If actions that explicit the gender perspective in teaching or the focus on gender issues in courses/training can be considered as directly affecting its content to go at the heart of the integration of the gender dimension in teaching and do comprise

83% of the actions, the other actions refer to the inclusivity in the access to university or to gender inclusive teaching strategies. Access to university overall and on fields where individuals belonging to some groups are underrepresented can be considered as a key factor in a country where a minority of youth enrol to university and are able to complete their higher education and where horizontal segregation by gender in different fields can be observed. Thus, reference in the analysed actions is made to the inclusion of students with care responsibilities, in terms of ethnicity, migrant or refugee status though not always the actions provide a gender intersectional perspective.

Only three actions in the analysed GEPs can be regarded as truly affecting teaching and learning strategies by including the gender perspective in training courses for the academic staff: newly recruited employees (in most cases academic faculty staff) or, as in one action, mandatory for directors of departments and administrative areas, members of academic bodies, chairpersons of joint committees, delegates for Equal Opportunities, department representatives for Equal Opportunities, members of the Equal Opportunities Committee, chairs of the Student Conference, and recommended to undergraduate, master and Ph.D. students.

Finally, one action is related to the need of showing in each teaching course the contribution of women scholars to the specific discipline, which is often neglected or understimated in the reconstruction of the history of each discipline, thus contributing to unveil past role models for female students in the specific course with a potential positive effect on their further choices in the post-graduate studies.

6. Discussion

This paper aimed to provide elements of reflection to understand how these processes of institutionalization of gender can have transformative effects in research and higher education institutions. The study of the GEPs published by 26 Italian

universities (about one-third of the total) for 2020-2022 shows various initiatives to support the gender dimension in research and teaching, which have been envisaged in response to the European Commission's requirements. At the same time, however, it reveals some dichotomies/tensions that may hinder the transformative character to achieve greater gender equality in scientific institutions.

The first dichotomy identified concerns the conceptualisation of gender. It is expressed in identifying *gender as a binary category vs. an intersectional category.*

In most of the actions analysed, gender is mainly conceptualised as a biological characteristic; the measures introduced in the Italian universities through the GEP under study frequently refer to women in research and science, while there are few explicit references to gender as a complex concept, as it is now understood in the current literature research. According to recent perspectives adopted in gender studies in science and academia, gender is "a complex set of social relations implemented through a series of social practices that exist both inside and outside formal organizations" (Ely and Meyerson 2000). In the last decade, these conceptualisations and analytical perspectives of gender have been implemented by the European Commission, which underlines in *Gendered Innovation 2* that "gender refers to sociocultural norms, identities and relations that structure societies and organizations and shape behaviours, products, technologies, environments, and knowledges" (European Commission 2020a, 14).

The document also clarifies that gender is an organizing principle that regulates structure behaviours, attitudes, physical appearance and habits that can change in time and place and that is expressed in gender norms, gender identities, and relations, where *gender norms* refer to the social and cultural attitudes and expectations produced in (and through) social institutions (families, schools, workplaces, universities, etc.), social interactions, and culture (books, media, games etc.), *gender identities* refer to how individuals or groups perceive and present themselves in relation to gender norms, and *gender relations* refer to how people

interact with others and institutions, based on their sex and their gender identity (*Ibidem*).

Proposed actions to promote the gender dimension in research generally pay little attention to multidimensional features of gender (Hyde *et al*. 2018) but also barely address the need to intersect gender with the social categories of age, socio-economic status, and ethnicity, as suggested by the intersectional approach embraced by European gender policy orientations. The few measures aimed at supporting other minorities, for example foreign refugee students/researchers, omit the gender dimension, with the (unintended) result of defining priorities between disadvantaged categories, rather than implementing an intersectional reading aimed at supporting each category by highlighting its specific characteristics and needs and highlighting how the intersection of multiple disadvantages must be adequately considered.

The second tension identified in the analysis of GEP actions concerning the gender dimension in research and teaching is between the *epistemic vs. organisational dimension*. While the area of intervention analysed explicitly questions gender as an analytical perspective, aiming on the one hand to overcome the cognitive bias introduced in scientific knowledge as a result of the fact that research processes are mainly designed, implemented and disseminated by men, and on the other hand to create innovative processes in techno-scientific knowledge, many of the actions presented by GEPs of the Italian universities analysed aim to achieve a better gender balance in research teams and to make the academic and research environment more inclusive. According to the European Commission, "sex and gender can influence all stages of research and innovation, from strategic considerations for setting priorities and building theories to more routine tasks of formulating questions, designing methods and interpreting data" (European Commission 2020a, 18). However, the analysis of the actions shows that there is still little

awareness of the epistemic relevance of developing the gender perspective. Indeed, many of the actions relating to the development of the gender dimension are training courses on the subject, while there are few examples of courses of study that have declined the gender perspective in depth in a specific discipline but have not conceived it as a cross-disciplinary perspective of analysis. Such an approach risks weakening the transformative character of the plural and intersectional perspective that the gender dimension brings to knowledge. Finally, this limitation risks having a profound impact if we consider diversity not only as a principle for generating more innovation but also as an indispensable condition for the construction of knowledge aimed at building a more equitable, inclusive, and sustainable society, as the 2030 Agenda for Sustainable Development requires.

A third interesting point that our analysis of the GEPs has highlighted is the persistence of a *duality between the individual and the structural level* in the processes of integrating the gender dimension into research and teaching. A significant part of the proposed actions, in fact, tend to incentivize or reward the individual contribution of researchers in terms of the gender-sensitive approach adopted in their studies (for example through various forms of rewards or prizes for degree or doctoral theses or for particularly significant research projects and scientific publications). A possible line of interpretation is that these results may go beyond a subjective meaning of 'merit' (Picardi 2020; Gaiaschi 2022) and be considered more generally as a representative expression of the greater attention guaranteed to the gender perspective by the teaching courses or departments within which those research products have been developed. However, upon careful reading of the European recommendations, this assumption does not automatically equate to or, at least, cannot exhaust the objective of integrating a gender perspective required of each university, which should institutionalize it through the adoption of tools for planning its policies and the provision of measures for redefining its organizational architecture that are valid *erga omnes*.

A fourth line of tension emerging from the analysis of the GEPs evokes an issue not entirely resolved within Italian academia about the institutional status and position attributed to Women's Studies and Gender Studies in the scientific community, relating to the ambivalent interpretation that can be assigned to the strategy of translating the integration of the gender dimension in research and teaching mainly as the provision of incentives for research projects and/or the establishment of *ad hoc* courses on gender-sensitive topics, included in the ordinary curricular programmes or offered by (inter)-university research centres, also in the form of further specialization in the phase of postgraduate training (Botto 2022). Does the dimension of *valorisation of this subject area* prevail or rather the *risk of a sort of its ghettoization*? On the one hand, in fact, the promotion of this well-established scientific field in the educational chain formed by research and teaching within each university undoubtedly constitutes a valid support for recognizing and increasingly enhancing its scope (Feci 2020). On the other hand, if this type of strategy is not complementary to a more transversal perspective of integrating the gender approach in any disciplinary sector, there is the risk of limiting the field of study to a sort of echo-chamber, fuelled also in the recruitment phase by an over-represented presence of women (De Longis 2009; Sapegno 2014), and which can discount this type of mono-gender bias also in terms of defining an organizational sub-culture that is very different from that shared in the broader daily routine of the university life, without anything or very little really changing at the level of general strategic direction.

7. Conclusions

On the basis of the analysis on the GEPs' actions dealing with the integration of the gender dimension into the content of research and teaching, core functions of

higher education institutions, reflections on policies suggestions and further research activities are provided in this Section. A first issue regards the under-representation of GEPs' actions in this area. This fact itself calls for a wider attention by Italian Universities to really put in practice a transformative process towards gender equality consistently with the aims of the Horizon Guidelines.

Another important issue, that our analysis detects, concerns the very concept of intersectionality and of its application to the actions design. Gender is mostly introduced as a binary category and often without considering the gender interaction with other social categories (such as age, socio-economic status, and ethnicity). Again, revising GEPs' actions, a critical assessment with regards to the very definition of gender and intersectionality should be provided and dedicated actions should be put into place.

The universities, whose GEPs have been analysed in this essay, are heterogeneous in terms of the socioeconomic contexts. A higher attention should be paid, also in the design of actions in the research and teaching areas, to the context where the universities are located in line with Horizon Europe Guidelines to GEPs that state that "all organisations are different and a GEP should be created specifically for an organisation's mission, history, and context" (European Commission 2021b, 13).

To improve the effectiveness of the actions, the GEPs' context analysis should be extended to encompass gender equality indicators at regional and subregional level. This is even more needed in a country like Italy characterized by a high degree of regional heterogeneity in terms of gender sensitive policies and gender inequalities indicators. This heterogeneity is reflected in gender equality indices at regional level, as the Regional Gender Equality Index (R-GEI) by di Bella and colleagues (2021) that implement at regional level the measurement of gender equality provided by the European Institute of Gender Equality (EIGE). Labour force indicators disaggregated by gender collected also at subregional level should be

included in the GEPs' context analysis to guide the design of an educational pro-gramme aware not only of the skills required by the local labour demand but also of gender horizontal segregation to design specific actions to contrast them. These actions can include prizes to the gender under-represented students as well as other incentives for women to enrol in male dominated curricula and for men to enrol in female dominated curricula, but also agreements with external stakehold-ers to foster internships in gender under-represented sectors or to conduct public engagements initiatives in high schools to make students aware of gender stereo-types dominating the choice of universities and professional profiles.

At each institution level, to measure the degree of integration of the gender dimension in teaching in higher education institutions, a mapping of existing gen-der sensitive courses can be build asking at the teaching staff not only to tick a box, but to reflect and explain the gender perspective in their course.

The observed under-representation of a gender perspective in teaching meth-odologies suggests to further investigate to what extent universities and their teaching and learning centres invest in the development of dedicated teaching modules since, without gender sensitive teaching modules in training the risk is that:

- teachers cannot develop a gender perspective and skills in teaching strategies to transform their teaching courses as gender inclusive;
- teachers cannot be able to recognize the gender impact of their courses either in terms of content or in terms of teaching strategies;
- this can result in a failure in the inclusion of the gender dimension in teaching negatively affecting the inclusion of a gender perspective in research or perpetrating gender segregation by field of studies.

Moreover, the lack of courses on the gender impact of policies and gender equality dedicated to members of the university bodies, equal opportunities representatives and department or administrative areas chairpersons can result in:

- members of University bodies, and chairpersons of department and administrative areas not trained to lack a gender perspective in decision-making;
- not including these modules for Equal Opportunities representatives and members of Equal Opportunities Committees can severely compromise their ability to recognize and address gender issues.

The change at the level of each higher education institution's strategic planning should be accompanied by an explicit reference to gender inclusive education by the governing and evaluation bodies. Actually, the new guidelines of the Italian National Agency for the Evaluation of Universities and Research Institutes (ANVUR 2023a) state that:

> The Course of Study must provide for teachers, tutors and specialised figures adequate in number and qualification to support the teaching requirements; at the same time, it must provide for the participation of teaching staff in training initiatives and refresher courses to improve their scientific, methodological and teaching skills to support quality and innovation (*Ivi*, 31; our translation).

We do call for an explicit reference by the Italian Agency for the Evaluation of Universities and Research, in their Quality Assurance Guidelines (ANVUR 2023a and 2023b) to training activities with a focus on gender inclusive and gender sensitive teaching and learning methodologies. The construction of a repository of the courses realized by different Universities on these issues and the related process of evaluation can be offered by the National Conference of Italian Universities

Equal Opportunities Committees and by the Conference of Italian Universities Rectors. Coordinated actions at national level can provide an additional boost to the process of engendering higher education.

Further developments will include an increase in the number of GEPs analysed to obtain a wider coverage of Italian universities and of the different phases in GEPs design, implementation, monitoring, and evaluation.

References

ANVUR - Italian National Agency for the Evaluation of Universities and Research Institutes (2023a), *Linee guida per il sistema di assicurazione della qualità degli Atenei* (Guidelines for the Universties quality assurance system" Approvato con Delibera del Consiglio Direttivo no. 26 del 13 febbraio 2023 - https://www.anvur.it/attivita/ava/accreditamento-periodico/modello-ava3/strumenti-di-supporto/

ANVUR - Italian National Agency for the Evaluation of Universities and Research Institutes (2023b), *Linee Guida per il Riconoscimento e la Valorizzazione della Docenza universitaria.* (Guidelines for the Recognition and Enhancement of University Teaching). May 2023 - https://www.anvur.it/wp-content/uploads/2023/09/GdL-ANVUR-Linee-Guida-per-il-riconoscimento-e-la-valorizzazione-delle-docenza-universitaria.pdf

Berg, A., and Lie, M. (1995), Feminism and constructivism. Do artifacts have ender?, in *Science, Technology and Human Values*, vol. 20, no. 3, pp. 332–351.

Blackmore, J., and Sachs, J. (2003), Managing Equity Work in the Performative University, in *Australian Feminist Studies*, vol. 41, no. 18, pp. 141–162.

Botto, M. (2022), Gli studi di genere in Italia: passato, presente e futuro di una sfida ancora aperta / Gender studies in Italy: past, present and future of a still open challenge, in *AG About Gender*, vol. 11, no. 21, pp. 295–345.

Buolamwini, J., and Gebru, T. (2018), Gender shades: intersectional accuracy disparities in commercial gender classification, in *Proceedings of Machine Learning Research*, no. 81, pp. 77–91.

Cellini, M., Carlini, E., Ranzuglia, C., and Di Tullio, I. (2022), *Gender Equality Plans in Italian Universities: A First Descriptive Analysis*, Consiglio Nazionale delle Ricerche – Istituto di Ricerche sulla Popolazione e le Politiche Sociali. (IRPPS Working papers no. 132/2022).

Chappell, L., (2015), *The Politics of Gender Justice at the International Criminal Court: Legacies and Legitimacy*, Oxford, *Oxford University Press*.

Chappell, L. (2014a), 'New', 'Old', and 'Nested' Institutions and Gender Justice Outcomes: A view from the International Criminal Court, in *Politics & Gender*, vol. 4, no. 10, pp. 572–594.

Chappell, L., (2014b), Conflicting Institutions and the Search for Gender Justice at the International Criminal Court, in *Political Research Quarterly*, vol. 67, no. 1, pp. 183–196.

Chappell, L. (2002), *Gendering Government: Feminist Engagement with the State in Australia and Canada*, Vancouver, University of British Columbia Press.

Clavero, S., and Galligan, Y. (2021), Delivering Gender Justice in Academia Through Gender Equality Plans? Normative and Practical Challenges, in *Gender, Work and Organization*, vol. 3, no. 28, pp. 1115–1132.

Cockburn, C. (1983), *Brothers. Male Dominance and Technological Change*, London, Pluto Press.

Cockburn, C., and Ormrod, S. (1993), *Gender and Technology in the Making*, London, Sage

Collins, P.H. (1993), Toward a new vision: Race, class, and gender as cate of analysis and connection, in *Race, Sex & Class,* vol. 1, no. 1, pp. 25-45.

Conference of Italian University Rectors, CRUI (2019). Linee guida per il bilancio di genere negli Atenei Italiani. Gruppo di lavoro Bilancio di genere degli atenei italiani, Commissione tematiche di genere della CRUI - https://www.crui.it/bilancio-di-genere.html

Conference of Italian University Rectors, CRUI (2021), V*ademecum per l'elaborazione del Gender Equality Plan negli Atenei italiani*, Gruppo di lavoro GEP, Commissione tematiche di genere della CRUI - https://www.crui.it/archivio-notizie/vademecum-per-l%E2%80%99elaborazione-del-gender-equality-plan-negli-atenei-italiani.html

Crenshaw, K. (1991), Mapping the margins: Interse and violence against women of color, in *Stanford law Review* , vol.42, no. 6, pp. 1241-1299.

De Longis, R. (2009), "Un mestiere dentro e fuori le istituzioni. Una proposta di riflessione dalla Società italiana delle Storiche", in Chemotti, S. (a cura di), *Donne: oggetto e soggetto di studio: la situazione degli Women's Studies nelle università italiane*, Padova, Il poligrafo, pp. 39-46.

di Bella, E., Leporatti, L., Gandullia, L., and Maggino, F. (2021), Proposing a Regional Gender Equality Index (R-GEI) with an Application to Italy, in *Regional Studies,* vol. 5, no. 5, pp. 962–973.

Ely, R.J., and Meyerson, D.E. (2000), Theories of gender in organizations: A new approach to organizational analysis and change, in *Research in organizational behavior*, no. 22, pp. 103-151.

European Commission, (2021a), *She Figures 2021. Gender in research and innovation: statistics and indicators.* Publications Office of the European Union: Luxembourg, 2019; ISBN 978-92-79-86715-6 - https://data.europa.eu/doi/10.2777/936

European Commission, (2021b), *Horizon Europe guidance on gender equality plans*. Luxembourg: Publications Office of the European Union.

European Commission, (2021c), *General Annexes to Horizon Europe Work Programme* 2021-2022 - https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/wp-call/2021-2022/wp-13-general-annexes_horizon-2021-2022_en.pdf

European Commission, (2020b), Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on achieving the European Education Area by 2025, COM/2020/625 final.

European Commission, (2020a), *Gendered innovations 2 – How inclusive analysis contributes to research and innovation* – Policy review, Publications Office of the European Union - https://data.europa.eu/doi/10.2777/316197

European Commission, (2017, May 5), Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on a renewed EU agenda for higher education - https://cutt.ly/iJGsgrv.

European Commission, (2013), *Gendered innovations. How gender analysis contributes to research* - http://ec.europa.eu/research/sciencesociety/document_library/pdf_06/gendered_innovations.pdf

European Commission, (2009), *Gender and research beyond 2009. Position paper by the Helsinki Group on women in science* - http://ec.europa.eu/research/science-society/document_library/pdf_06/gender-and-research-beyond-2009_en.pdf

European Commission, (2000), *Science policies in the European Union – Promoting excellence through mainstreaming gender equality: A report from the ETAN*

expert working group on women and science - https://op.europa.eu/en/publi-cation-detail/-/publication/4d456ad0-abb8-41a2-9d21-dbd5381f1f4c/lan-guage-en

https://eur-lex.europa.eu/legal-con-tent/EN/TXT/PDF/?uri=CELEX:52020DC0628&from=EN

https://op.europa.eu/en/publication-detail/-/publication/ffcb06c3-200a-11ec-bd8e-01aa75ed71a1

European Institute for Gender Equality, (2016), *Integrating gender equality into academia and research organisations Analytical paper* - https://cutt.ly/Gh1pSNf

Faulkner, W. (2004), *Strategies of Inclusion: Gender and the information society* (SIGIS) report, University of Edinburgh Press, Edinburgh.

Faulkner, W. (2001), The technology question in feminism: A view from feminist technology studies, in *Women's Studies International Forum*, vol. 24, no. 1, pp. 79-95.

Feci, S. (2020), The Reception of Women's and Gender History: A Perspective from the Italian Association of Women Historians, in Bertilotti, T. (a cura di), *Women History at the Cutting Edge. An Italian Perspective*, Roma, Viella, pp. 45-53.

Gaiaschi, C. (2022). *Doppio Standard*, Rome, Carocci.

Gherardi, S., and Lippi, A. (2000), *Tradurre le riforme in pratica*, Milano, Cortina.

Haraway, D. (1988), Situated knowledges. The science question in feminism and the privilege of partial perspective, in *Feminist Studies,* no. 14, pp. 575-609.

Harding, S. (1986), *The Science Question in Feminism*, Ithaca, NY, Cornell University Press.

Harding, S.G., (1991), *Whose Science? Whose Knowledge?: Thinking from Women's Lives*, Ithaca, NY, Cornell University Press.

Hyde, J.S., Bigler, R.S., Joel, D., Tate, C.C., and van Anders, S.M. (2018), The future of sex and gender in psychology: five challenges to the gender binary, in *American Psychologist*, vol. 2, no. 74, pp. 171–193.

Jordão, C., and Diogo, S. (2023), Steps towards the Integration of the Gender and Sex Dimension in R&I: The Case of a Public University, in *Education Sciences*, vol. 13, no. 1, 35 - https://doi.org/10.3390/educsci13010035

Kenny, M., (2007), Gender, institutions and power: a critical review, in *Politics* vol. 2, no. 27, pp. 91–100.

Korsvik, T.R., and Rustad, L.M. (2018), *What is the Gender Dimension in Research? Case Studies in Interdisciplinary Research*; Kilden: Lysaker, Norway, 2018; ISBN 978-82-12-03745-8.

Lefebvre, S., Giddings, L. (2023), The Necessity of Pursuing Feminist Pedagogy in Economics, in *Review of Political Economy*, vol. 3, no. 35, pp. 614–633 - https://doi.org/10.1080/09538259.2023.2183673.

Lie, M. (2003) (ed. by), *He, She and IT Revisited. New Perspectives on Gender in the Information Society*, Oslo, Gyldendal Akademisk.

Lieblich, A., Tuval-Mashiach, R., and Zilber, T. (1998), *Applied Social Research Methods: Narrative Research*, Thousand Oaks, Sage.

Mackay F., (2010), "Devolution and the Multilevel Politics of Gender in the UK: The case of Scotland", in Haussman, M., Sawer, M., and Vickers, J. (eds. by) *Federalism, Feminism and Multilevel Governance*, London, UK: Routledge, pp. 155–168.

Mackay, F., (2006), "Descriptive and Substantive Representation in New Parliamentary Space: the case of Scotland", in Sawer, M., Tremblay, M., and Trimble, L. (eds. by), *Representing Women in Parliament: A comparative study*, London, UK, Routledge, pp. 171–187.

Mackay, F., and McAllister, L. (2012), Feminising British Politics: six lessons from devolution in Scotland and Wales, in *Political Quarterly*, vol. 3, no. 83, pp. 730–734.

Mackay, F., and Waylen, G., (2014), Introduction: gendering 'new' institutions, in *Politics Gender*, vol. 4, no. 10, pp. 489–494.

Nielsen, M.W., Bloch, C.W., and Schiebinger, L. (2018), Making gender diversity work for scientific discovery and innovation, in *Nature Human Behaviour*, no. 2, pp. 726–734 - https://doi.org/10.1038/s41562-018-0433-1.

Picardi, I. (2020), *Labirinti di cristallo. Strutture di genere nella ricerca e nell'accademia*, Milano, FrancoAngeli, ISBN: 978-88-351-0721-7

Sapegno, M.S. (2014), *La differenza insegna. La didattica delle discipline in una prospettiva di genere*, Roma, Carocci.

Schiebinger, L. (2011), *Gender science technology*, United Nations Division for the Advancement of Women (DAW, part of UN Women), United Nations Educational, Scientific and Cultural Organization (UNESCO) - https://www.un.org/womenwatch/daw/egm/gst_2010/

Schiebinger, L., and Schraudner, M. (2011), Interdisciplinary approaches to achieving gendered innovations in science, medicine, and engineering, in I*nterdisciplinary Science Reviews*, vol. 2, no. 36, pp. 154–167.

Tildesley, R., Lombardo, E., and Verge, T. (2021), Power struggles in the implementation of gender equality policies: The politics of resistance and counter-resistance in universities, in *Politics & Gender*, pp. 1–32 - https://doi.org/10.1017/S1743923X21000167

Torrico, M.G.-C., Hinojosa-Pareja, E.F., Buenestado-Fernández, M., and Jiménez-Millán, A. (2023), A statutory requirement: Teaching innovation for gender equality at university, in *Women's Studies International Forum*, no. 96.

_____

UNESCO United Nations Educational, Scientific and Cultural Organization (2019), *From access to empowerment: UNESCO strategy for gender equality in and through education 2019-2025* - https://cutt.ly/IRPHnA4

Wajcman, J. (2010), Feminist theories of technology, in *Cambridge Journal of Economics*, vol. 34, no. 1, pp. 143-152

Wajcman, J. (2004), *Technofeminism*, Cambridge, Polity Press.

Wajcman, J. (1991), *Feminism confronts Technology*, Cambridge, Polity Press.

Weber, L., and Fore, M. (2007), Race, ethnicity and health: an intersectional approach, in: Hernan, V. and Feagin, J. (eds. by), *Handbook of Sociology and Racial and Ethnic Relations*, Springer Press, New York, pp. 191-219.