



ITALIAN JOURNAL OF SOCIOLOGY OF EDUCATION

Editor-in-Chief: Silvio Scanagatta | ISSN 2035-4983

Toward a more inclusive academia? Strategies and perspectives through reading Italian universities' Gender Equality Plan

*Giovanni Brancato**, *Giovanna Gianturco***, *Mariella Nocenzi****

Author information

* Ph.D., Sapienza University of Rome, Giovanni.brancato@uniroma1.it.

** Full Professor, Sapienza University of Rome, Giovanna.gianturco@uniroma1.it.

*** Associate Professor, Sapienza University of Rome, mariella.nocenzi@uniroma1.it.

Article first published online

March 2025

HOW TO CITE

Brancato G., Gianturco G., Nocenzi M. (2025) "Toward a more inclusive academia? Strategies and perspectives through reading Italian universities' Gender Equality Plans" *Italian Journal of Sociology of Education*, 17(1), 201-224.

DOI: 10.25430/pupj-IJSE-2025-1-10

Toward a more inclusive academia? Strategies and perspectives through reading Italian universities' Gender Equality Plans

Giovanni Brancato, Giovanna Gianturco, Mariella Nocenzi

Abstract: Gender equality in academia, like in all human organizations, mirrors broader societal transformations and is shaped by interconnected factors, including legislation, regulatory frameworks, individual commitment, and institutional culture. The latter, comprising ingrained yet often implicit assumptions, beliefs, values, norms, and practices, highlights the complexities of tools like the *Gender Equality Plan* (GEP), designed to guide universities' gender equality strategies. A textual analysis of a lexicometry type of GEPs from Italian universities provides insights into standardized objectives, drafting processes, stakeholder involvement, and initial impacts on academic communities.

Keywords: Universities, Gender Equality Plan, Evaluation, Implementation, Impacts

1. Introduction

The persistence of gender inequalities within scientific communities and academia cannot be simply regarded as a mere paradox. The production of knowledge through research has indeed allowed for the acknowledgment of the value of principles such as diversity, ubiquitous in nature, or equality in the name of the rights of every living individual. However, universities are also human organizations, endowed with their own culture that reflects that of the society in which they operate, which predominantly exhibits a male-oriented approach. In these contexts, the issue generally lies not in sexual discrimination but rather in the perpetuation of processes based on stereotypes and prejudices. Typically, these processes do not even have an evident relationship with gender but manifest in universities' inability to attract, retain, or promote enough women and non-binary gender and sexual identities, despite the apparent willingness to do so.

The European Union can be considered one of the most active supranational institutions committed to gender equality, a theme regarded as a core value of its cultural and normative heritage, assuming a strategic character that renders it a fundamental objective for sustainable development.¹ An increasingly systematic and gender-sensitive collection of data and information in the research world has revealed a nuanced picture.² In a scenario marked by significant gender disparities, women and men tend to concentrate in certain scientific fields (horizontal segregation) - predominantly social and humanistic for women, and technological and engineering for men - and leadership positions are more frequently occupied by men (vertical segregation). Upon closer analysis, there is an unequal distribution of resources through research funding across genders, and concerning approaches, content, and results of research and teaching, the essential dimension of sex and gender is often overlooked. In this way, the perspectives, experiences, and needs of half of the population risk being neglected or ignored, and this applies also to other subjects victimized by intersecting inequalities or

¹ On this topic, it is worth mentioning just a few of the early examples of policy-strategic initiatives adopted at the European level since the end of the last century: the Lisbon Strategy (2000); the 5th Framework Programme for Research, Technological Development and Demonstration (1998-2002); the 6th Framework Programme for Research and Technological Development (2002-2006); and the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - A reinforced European Research Area partnership for excellence and growth (2012). In recent years, the issue has required a structured effort from European institutions, leading to the most recent definition of the "Gender Equality Strategy 2020-2025" aimed at achieving a gender-equal Europe, free from sex discrimination, gender-based violence, and structural gender inequalities.

² For more details on the topic, see the She Figures reports, published by the European Union since 2003, with the aim of presenting a comparative overview across Europe on the topic of gender equality in R&I.

discriminations. The most direct effect is that policies, services, products, and innovations are not effective because they are directed towards and serve only a certain segment of society.

Against this background, it is considered necessary to address gender equality as a cross-cutting factor, adopting appropriate and intersectional approaches and methodologies. Considering that for science to produce knowledge, this fundamental factor is crucial in terms of content, training, funding, and dissemination, the European Union has implemented direct measures, sometimes even affirmative actions, to rebalance the presence of the gender factor, requiring the integration of sex/gender/intersectionality components, for example in the allocation of funds for research projects, under the penalty of being deemed ineligible for funding. This approach also aims to intervene in those informal values and practices within research institutions that are the most challenging to change.

In the most recent developments of the European Commission's strategies on gender equality, these objectives are reaffirmed primarily through the introduction of the instrument of Gender Equality Plan (GEP) in coordination with Member States and stakeholders. The aim is to promote a research organizational culture that is inclusive regarding the gender factor, thereby effecting sustainable change within organizations and eliminating barriers to the career advancement of women and other individuals discriminated against based on this factor.

Application in university contexts such as Italian ones can provide important information not only on the Italian cultural trend, but also measure the effectiveness of a tool that, when applied in this exceptional place in society, can provide possible good practices. A textual analysis of the GEP texts in different Italian universities will identify the impact of this new self-reflective tool and organisational culture.

2. Gender Equality Plan: what they are, what they are for

According to the EU legislator, the strategic function of the GEP must become the practice of the entire organization and, for this reason, intervenes at various levels to be effective and transformative: it must address the entire organization and its organizational structures, procedures, and, more broadly, the culture that (re)produces gender inequalities and other intersectional inequalities. It is essential to identify and act on the various mechanisms that need to be modified through holistic approaches, always considering the benefits that extend from the organization to the entire society. Among the main ones: (i) increased success and innovation performance of organizations due to greater diversity; (ii) greater understanding

of sex and gender specificities; *(iii)* improvement of work-life balance, equal access to opportunities, and increased well-being.

It is evident that these objectives link improved innovative performance of organizations with greater equity in society and increased economic growth. As highlighted in the Conclusions of the European Council meeting on December 1, 2020, it was reiterated that gender equality is essential for Europe to fully exploit the potential of its R&I system (EU Council, 2020). Therefore, there is a shift in perspective whereby gender equality is entrusted with a driving role in development for Europe through research. This is deemed feasible if supported by research funding allocation unaffected by gender biases and by the establishment and implementation of Gender Equality Plans (GEP).

In the European Commission's 2022-2024 Agenda for the European Research Area (European Commission, 2022), objectives for combating gender-based violence in academic settings have been added. Additionally, there is a focus on opening gender equality policies to intersections with other categories of diversity and potential reasons for discrimination, such as ethnicity, disability, and sexual orientation. The agenda emphasizes mutual learning through robust governance, the adoption of existing tools such as GEPs by updating them to facilitate systemic institutional change, and the removal of institutional barriers through active monitoring and evaluation to ensure continuous improvement. These priorities align with the principles outlined in the Ljubljana Declaration on Gender Equality in Research and Innovation (European Council, 2021) and with gender equality being established as a cornerstone and cross-cutting principle of Horizon Europe, the EU's framework program for Research and Innovation funding for the period 2021-2027 (European Union, 2021).

With the adoption of instruments like the GEP, both the European and international legislators have effectively identified common benefits that can accrue to research organizations and society, as outlined in the goals of Objective 5 of the 2030 Agenda for Sustainable Development and reinforced by compliance with specific gender equality standards as an eligibility criterion (European Commission, 2022c).

Before delving deeper into what a GEP is, how it works, and its impacts on the research and innovation system, it is important to clarify that such tools are adopted within policy measures that vary in response to broader social and political changes, as evidenced by studies, research, and public pressure on representatives within the European institution. An example is the increased investment in fostering women's participation in STEM (European Commission, 2022b) and targeted evaluation of the sex and gender impact of the pandemic (European Commission, 2023), issues that have emerged more prominently in recent years. The general framework is out-

lined in a strategic plan, currently represented by the EU Gender Equality Strategy (European Commission, 2020), in which political objectives and actions delineated to make significant progress by 2025 require the adoption of a dual approach of gender mainstreaming and intersectionality as a horizontal principle for its implementation.

More specifically, as already hinted, GEPs are one of the most operational tools, to the extent of becoming mandatory for access to the Horizon Europe Program, alongside other intervention means: funding for technological start-ups, entrepreneurship and decision-making courses, development of basic services in rural areas and blue economy to benefit women. The GEP is defined as “a set of commitments and actions aimed at promoting gender equality in an organization through a process of structural change” (European Commission, 2020).

Its four constituent elements are: 1) publicity and accessibility for all stakeholders; 2) financial coverage for its complete implementation; 3) collection and monitoring of disaggregated data useful for various stages of plan implementation; 4) training and capacity building as supportive measures for its implementation.

In its articulation, according to the EIGE - European Institute for Gender Equality (Brew & Bencivenga, 2017), five phases of a circular and iterative process aimed at identifying the specific needs of the university can be considered: a) diagnosis with the collection and analysis of disaggregated data by gender; b) planning to define activities to achieve objectives and meet needs and concerns; c) implementation of defined activities; d) monitoring progress towards goal achievement; and finally, e) evaluation of the sustainability and impact of the implemented GEP through qualitative-quantitative indicators.

Regarding the target areas of GEP implementation, the European Commission (2022a) has recently updated focuses on themes of work-life balance, gender equality in top positions, gender equality in recruitment processes and career progressions, combating gender-based violence, and integrating gender dimension into research and teaching programs.

The holistic nature and operational vocation are the defining characteristics of this tool, which has been progressively refined to involve the entire organization and ensure the principle of gender equality is always applied: from promoting women’s careers to using gender-sensitive language. Objectives, priorities, and actions translate these principles into concrete measures starting from a thorough assessment of the starting condition, reflecting on the actions of those within the organization, and their continuous learning supported by monitoring and evaluation outcomes through specific indicators of achievements within predefined time intervals. Hence,

crucial is the responsibility of leadership and governance overseeing its preparation and implementation.

It is understood, therefore, that alongside the traits of holistic dimension and operational vocation, the GEP also presents the specificity for each university it refers to (*tailorness*): the peculiarity of social contexts and academic reality requires the involvement of all stakeholders who are part of it and who work for gender equality, from the top management legitimizing actions to the beneficiaries contributing to its broader implementation. Considering its strategic relevance and transformative purpose, the GEP must leverage on one hand the responsibility of governance and the expertise of experts, and on the other hand the sense of belonging to the induced process of stakeholders.

In Italy, specifically in the academic world, universities are required to prepare the Positive Action Plan (PAP) according to the Directives of the Presidency of the Council of Ministers no. 2/2019 and, in line with Communication COM no. 152 of 5 March 2020 of the European Commission, to plan actions aimed at removing obstacles to full and effective equality between men and women. The GEP outlines its implementation strategy to the extent that it is included within the University's Strategic Plan to delineate development lines and operational modalities. The Conference of Italian University Rectors (CRUI) has established the thematic Gender Commission, which has drawn up specific Guidelines for drafting and implementing the GEP (CRUI, 2019), defining, among other things, the three-year periodicity, annual update based on monitoring results, and the composition of a GEP Team consisting of experts who, in synergy with the university structures and in connection with the top management, oversee the entire lifecycle of a GEP.

It is precisely in the Italian experience that the structural elements identified so far, and some themes highlighted by literature on the subject will be analysed: a lexicometry reading of the texts of Italian university GEPs will be presented in the next paragraph. A change model approach for the GEPs analysis will aim to show how a standard tool defined by the EU legislator is applied to a heterogeneous organisational culture. This approach, based on a logical model of intervention, illustrates how structural and cultural change should be achieved through the GEP, but also how to certify the impact of organisational culture on the application of GEP. The structural change of a university, as a complex social organization, impacts its essential components, including multiple and interacting power levels, change and conservative trends, actors, specific issues (Kalpazidou Schmidt & Cacace, 2019).

3. Background and purpose of the study

The main objective of the GEP is to drive structural and cultural change within the university towards gender equality. The analyses conducted so far have fuelled an interesting literature on the topic, especially at the international level, which is worth exploring to extract some useful analytical insights when reading the GEPs produced by Italian universities.

Considering what has already been discussed in the introduction, the framework outlined in the literature assumes that the transformative action of the GEP primarily concerns the structure. The change process should focus on policies and organizational practices governing, for example, recruitment, promotion, and evaluation of research and provide evidence on how they may or may not contribute to gender inequalities. Addressing gender equality in formal organizational structures and governance mechanisms becomes an intrinsic principle of the university and non-negotiable.

The academic community, consisting of academics, administrative staff, and students, constitutes another target of change, the sociodemographic specificity of which must be considered, comprising both the individual and collective identities of those involved and the cultural and scientific context of reference. For the former, it refers consensually to the social and political contexts, regional, national, and international policies regulating gender equality in the research world and underpinning the objectives and contents of the GEP. Regarding the cultural context, reference is made to the values, norms, rules, and purposes of social life in which the university operates, but also to the organizational culture of the academic community with its own gender values and representations. This is manifested in the formal and informal structure of the university organization, articulated in power relations that determine roles and social positions, but also in collaboration networks and closed groups to be identified to strategically plan participatory processes useful for implementing the GEP.

Therefore, it's important to take into account the transformative aims of the GEP on the structural, formal, and informal dimensions of the university, on its constitutive resources such as power - primarily understood here in the sense of Bourdieu (1971) - and the influence of the internal and external cultural context. The distinguishing features of the GEP can now be better understood, namely its holistic dimension, operational vocation, and tailor-made approach as previously discussed. These have been considered in some of the main approaches frequently studied in the literature regarding the change brought about through the GEP in universities.

We can start with the one that focuses on change of human systems as a process that often involves the impact of variables that cannot be controlled by traditional research methods (Coghlan, 2011). The complexity of a single

human organization, such as a university, makes structural change comparable to social change: to the extent that it involves both a transformation of structures and the mobilization of organizational actors who can promote change.

In this sense, the organizational structure of the university should be understood both as the physical and symbolic space within which change is made operational and as a set of opportunities and obstacles induced by the change itself. In this framework, a fundamental role is also attributed to transformative action to the extent that negotiation has been considered as a strategic tool in designing change in an academic environment (Kalpazidou Schmidt & Cacace, 2019). Negotiation processes within the organization should be understood as both internal and external, operating at micro, meso, and macro levels and aimed at consensus building, conflict management, identification of new allies or opponents to transformative action, precisely to anticipate effects, predict reactions, address resistance in the change process, and thus consider the intervening variables mentioned above.

It becomes equally strategic, therefore, to operate on the agency - as understood by Bandura (1995) - of all stakeholders, trying to involve them from a cognitive motivational perspective of change through institutional and operational negotiations (Cacace et al. 2016). Here, one of the most iconic schemes in representing these intra- and inter-organizational change dynamics is proposed because it outlines both the interconnectedness of phases and their non-linearity, the centrality of internal agents (actors) of transformation, the activation - and institutionalization, as we will see shortly - of agency dynamics in conditions of support or resistance to change, but also the interaction between transformative actions and structural resistance and the resulting outcomes in terms of structural change (Figure 1).

The potential outputs of transformative action in a university adopting a tool such as the GEP for structural change operate specifically in terms of increasing awareness of the gender dimension in the scientific organization, rebalancing the symbolically prevalent male image of science, identifying and neutralizing stereotypes about women and science, and thus redefining rules and procedures or creating new ones aimed at translating declarations and commitments into action for greater gender equality.

Certain elements of this process deserve specific attention for their strategic function in the implementation of this framework and in the realization of the change process promoted by the GEP. Firstly, the involvement of governance at various hierarchical levels, which was also referenced during the institutionalization of these procedures by the European legislator. It is crucial for legitimizing the changes made in the university's mission and for their systematic application to all academic activities and by all stakeholders through the representative action of the university's leadership. Promoting

organizational (social) transformations, strengthening existing networks or creating new ones with leadership impetus is a highly effective tool and makes the structure more flexible in adapting to new needs and tasks.

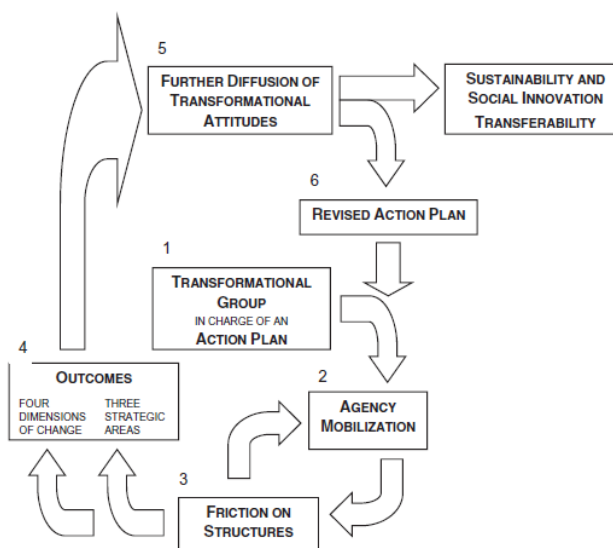


Figure 1. Intervention logic model for structural change in E. Kalpazidou Schmidt & M. Cacace (2019), p. 75.

Secondly, dissemination processes through communication complement the top-down action of governance, ensuring maximum amplification to every component of the academic community, especially if the messages are strategically modulated concerning the content to be communicated, the recipients to be reached, and the means available and provided by the context.

Thirdly, the reflective phase on the outcomes of the process, regarding principles such as the valorisation of lessons learned; the centrality of data collection and the evaluation phase; the analysis of what other universities have done or are doing to derive good practices; measurement of the impact of changes with experts and stakeholders, including external ones, through targeted and continuous communication. In short, the change process is continuous and iterative.

In a recent study on the cultural dimensions of change in medical and social science faculties at a British university (Ovseiko et al., 2019), the authors examined about a dozen elements that reflect the complexity of factors influencing institutionalization in relation to gender issues: vitality, self-efficacy in career advancement, institutional support; relationships/inclusion/trust, alignment of values, ethical/moral discomfort, leadership aspirations, work-life balance, gender equality, parity between blacks and ethnic minorities, commitment to ensuring diversity, impulse for institutional change.

These are elements identified in line with the *Athena Swan Charter*, a document for the certification and accreditation of English universities regarding good gender equality practices, established and managed by the UK Equality Challenge Unit since 2005. It provides a systemic framework for institutions to develop and implement gender equality action plans and a peer-review process to recognize through awards the extent to which institutional commitment translates into measurable outcomes for women's careers in science. A regulatory system, therefore, like the institutionalization process of academic change promoted by the GEP, to the point that in recent years the European Commission has been exploring scenarios for the introduction of a gender equality scheme like Athena Swan (European Commission, 2018). This study draws specific results from the institutionalization processes of gender equality in a British university but also more generalizable evidence. The formalization of new rules and norms clashes, first, with the presence of prejudices and stereotypes, often of a male matrix and perceived as adverse by women throughout their entire career: from recruitment to promotion, even to top positions, both among faculty and administrative staff. Invisible traits and patterns of male university culture persist, which, while seeming to ensure effectiveness and efficiency in established actions, tend to discriminate against and isolate those who are not affiliated with them or who oppose them. This resistance to change also seems to have a reflection concerning diversity from that prevailing model: in working hours and rhythms that, in the case of women, are different, but also in ethnic identities, in non-traditional sexual and gender identities.

Diversity destabilizes the balance based on the prevailing model, and this is even more evident in intersectional differences (Hill Collins, 2022) that identify a larger and more precise number of subjects within the academic world than that represented by the female component. The processes in which resistance to gender equality change is strongest are in the career advancement, especially in life sciences disciplines and in acquiring top positions (integrated vertical and horizontal segregation), which oppose new subjects from accessing "academic" positions of power. This resistance is such that, even when reference frameworks are defined based on a shared theory of equality, concrete actions are based on the common sense of those who prepare them: "tailored" (Benschop & Verloo, 2011) to effectively address structural issues and cultural barriers (Nielsen, 2015). Resistance to change is assumed as an integral dimension of every change process, and this is even more true when changes question established symbolic orders and cultural practices, as in the case of gender equality strategies in universities and their cultural organizations (Mergaert & Lombardo, 2014).

A third and final approach to investigating the transformations induced by the GEP focuses on the added value they bring to evaluating the imple-

mentation of gender equality in academic culture. Universities are complex organizations in which, as already emphasized, there is not a linear relationship between policy inputs and outputs, and where the impact depends on the interaction of a multitude of variables strongly linked to the context. Only a holistic view of structural change, which includes multiple objectives and intervention areas, can underlie research on the effectiveness of measures to make change effective. The fact that an institution has a GEP does not guarantee that change has been directed well and stably (O'Connor, 2020). Moreover, such policies must be interpreted and implemented not only under mandatory mandate or for material benefits, such as research funding, although these coercive actions are aimed at integrating equality principles into academia. In the Horizon 2020 Project "Evaluation Framework for Promoting Gender Equality in Research & Innovation" (EFFORTI), for example, the evaluation of transformative action within universities is analysed to understand not only whether expected results are achieved compared to equality inputs. It goes beyond conventional research indicators to establish causal relationships between policy interventions and observed changes (Bührer et al., 2019). Researchers immediately saw this as a theoretical and methodological challenge given the operational traits and specificity of a tool like the GEP, which simultaneously assumes a holistic view. Through the adoption of the theoretical approach to impact evaluation (TBIE), they attempted to decompose the realization and implementation processes of a plan, rather than resorting to a counterfactual analysis, investigating intervention logics and the connection between resources, results, and impacts.

This is an analytical path challenged by intervening variables such as different process times, the specificity of the local and cultural context, and the specific weight of the gender variable. Thanks to systematic data collection and selection of predefined indicators, the analysis was supported by identifying practices, more precisely "smart practices" already implemented and valued by indicators as relevant, effective, and efficient in the context in which they operate (Kalpazidou Schmidt et al., 2015). A logical intervention model is derived from this, consisting of inputs, flows, outputs, results, and impacts, as well as the effects of these on the desired effects, operating from the micro level (individuals involved in plan management) to the meso level of academies up, to the macro level of the entire society (Bührer et al., 2019). The linearity of the scheme does not clash but meets the extreme variability of academic and socio-cultural contexts in which it can be applied as a reference framework: in this way it's possible to establish a relationship between innovation actions and results and impacts. Certainly, not all the specific criticalities of each case study considered are resolved, and some constants of these criticalities are evident. Among these, the lack of knowledge due to insufficient information about cause-and-effect relationships (Samset &

Christensen, 2017) especially in contexts where the Plans are introduced for the first time or there are not enough funds and qualified personnel to acquire this data. Unable to obtain useful evidence from previous evaluations, theoretical and often formal change projects towards gender equality are developed, expressly linked to formats imposed by regulations or funded for research. These are typical phenomena of multi-level organizations in which program design ultimately falls to those actors who usually have the highest level of practical experience, whereas evaluation requires the highest degree of participation.

With this critical framework, we are preparing to read the most representative traits of the GEPs drafted and applied in Italian universities where their introduction, intensive on a mandatory basis since 2020, has so far only produced a first season of Plans and is preparing for the challenging drafting of second editions.

4. Methodology

Considering the scenario, the objective of this contribution is to analyse the contents of gender equality plans adopted by Italian universities in order to identify the most addressed themes, the stakeholders involved, the planned activities, as well as recurring elements or potential differentiations among different universities. To achieve this, we chose to analyse the textual contents collected within the GEPs through a computerized textual analysis of a lexicometry type. The use of this approach allowed us to identify, on one hand, the general meaning structures that characterize the analysed corpus and, on the other hand, the peculiarities that characterize the drafting of the GEP of one university compared to others through the introduction of specific categorical variables.

To define the analysis corpus, we chose to identify the university subjects to be examined based on specific objective characteristics. As indicated by the website of the Italian Ministry of Universities, there are 141 higher education institutions. In light of the objectives of this work, we chose to examine in this first phase only the 99 generally intended university institutions, as indicated by the MUR, not including in the analysis the GEPs of the 7 specialized universities of excellence (GSSI del Gran Sasso, IMT di Lucca, IUSS di Pavia, Normale di Pisa, Sant'Anna di Pisa, SISSA di Trieste, Scuola Superiore Meridionale di Napoli) and the 11 telematic universities currently present in the national territory (Università degli Studi "Niccolò Cusano", Università telematica "Guglielmo Marconi", Università telematica "Italian University Line", Università telematica "Leonardo da Vinci", Università telematica "Pegaso", Università telematica e-Campus, Università telematica Giustino Fortunato, Università telematica internazionale "UniNettuno", Uni-

versità telematica San Raffaele, Università telematica UNITELMA Sapienza, Università telematica “Universitas Mercatorum”).

Subsequently, the analysis corpus was further refined, going from 81 to 79, also excluding those universities that are currently not associated with the Conference of Italian University Rectors (Saint Camillus International University of Health Sciences, Università per stranieri “Dante Alighieri” di Reggio Calabria). This methodological choice is based on the authors’ intention to focus exclusively on universities that have received the gender-related guidelines drafted by the CRUI Commission, as previously mentioned. Finally, it was necessary to further reduce the corpus to 65 universities, as for 9 universities identified previously, it was not possible to retrieve the Gender Equality Plan from the institutional website (Libera Università Mediterranea - LUM Giuseppe Degennaro, Università degli Studi dell’Insubria, Università degli Studi di Enna “Kore”, Università degli Studi di Roma “Foro Italico”, Università degli Studi Internazionali di Roma, Università della Valle d’Aosta, Università Europea di Roma, Università per stranieri di Perugia, Università degli Studi di Cassino e del Lazio Meridionale), 2 are only available online in English (Politecnico di Milano, Università commerciale “Luigi Bocconi”), thus making it impossible to compare them with others in light of the lexicometry approach adopted in this work, and finally 3 for which it was not possible to extract the textual content from the online PDF document as it was encrypted or protected from copying via password (Università Ca’ Foscari Venezia, Università Carlo Cattaneo LIUC, Università degli Studi di Verona).

Considering the methodological choices described, the corpus consists of the Gender Equality Plan of 65 Italian universities, of which 54 are public universities and 11 are private. From a geographical distribution perspective, the corpus is homogeneous, comprising 17 universities from Central Italy, 24 from the southern area (South 19, Islands 5), and 24 from the northern area of the country (North-west 14, North-east 10). As for the size in terms of the number of enrolled students at the universities whose GEPs were examined, according to the classification provided by Censis (2023), the following scenario is present: 10 mega universities (with over 40,000 students), 18 large universities (from 20,000 to 40,000 students), 21 medium universities (from 10,000 to 20,000 students), and 16 small universities (up to 10,000 students). Finally, it is interesting to highlight a data point emerged from the identification of the time frame of application of the activities foreseen by each GEP under examination. In fact, it emerges that 40 GEPs cover the three-year activity period 2022-2024, while the remaining 15 concern either a previous period or a planning of activities that goes beyond three years.

The corpus thus defined underwent a textual analysis through a lexicometry approach characterized by attention to the frequency with which differ-

ent words are distributed within the corpus and the presence of relationships among them. This was accomplished by using IRaMuTeQ, an open-source software based on the R software, developed by French researchers using the Python programming language (Ratinaud, 2009; Ratinaud, Marchand, 2012). With software like the one used in this work, it is possible to carry out, in an almost entirely automated way, quantitative-qualitative analysis of large textual corpora (Giuliano, La Rocca, 2008). Through lexical-textual analysis, two different objectives can therefore be achieved: on one hand, the linguistic one, which is related to the study of the discursive modalities with which the contents are spread; on the other hand, the logical-semantic one, which aims to understand and analyse the content of texts starting from words (Bolasco, 2005; Lancia, 2004). In this specific context, it will be this latter dimension, namely the logical-semantic one, that will be applied in the conducted analysis.

The collected analysis corpus consists of 65 texts, which correspond to the number of GEPs analysed. It presents 243,206 occurrences, 6,011 forms - different words present in the text - and 2,134 hapax - words present only once in the corpus. Considering these lexicostatistical characteristics of the collected corpus, the reference literature allows us to define the analysis corpus as “tractable” presenting a ratio between the number of different words (forms) and the total number of words (occurrences) of less than 20%, and a ratio between the number of hapax and the total number of forms lower than 50% (Bolasco 1999; Bolasco 2013). In our specific case, the first value is 2.47% and the second is 35.5%.

5. Results and discussion

A primary outcome of the analysis concerns the study of occurrences of so-called “full” words. This means that the analysis was conducted regarding those lemmas that have their own meaning and are most found in the analysed texts. By focusing solely in this context on the top 50 words that are most frequent in the corpus (Table 1), three overarching themes can be highlighted: the topics addressed in the GEP, the key elements characterizing the drafting and implementation of a plan, and the actors involved within the gender equality plans. For example, the first three positions of the most frequent lemmas in the corpus are as follows: “Genere” (Gender) with 4468 occurrences, followed by “Azione” (Action) with 2768 occurrences, and “Personale” (Staff) with 1733 occurrences.

Specifically, the first group of lemmas concerning the topics addressed, in addition to “Genere” (Gender) includes terms such as “Ricerca” (Research, 1555), “Lavoro” (Job, 810), “Vita” (Life, 663), “Equilibrio” (Balance, 642), “Violenza” (Violence, 575), and “Parità” (Equality, 521). The second overarching

theme concerning the constituent elements of an operational plan is composed of words like “Azione” (Action) as previously indicated, “Area” (Area, 1271), “Obiettivo” (Goal, 1176), “Indicatore” (Index, 1044), “Valutazione” (Evaluation, 815), “Attività” (Activity, 762), “Monitoraggio” (Monitoring, 602), etc. Finally, the third set of lemmas concerning the subjects involved, more or less directly, in the activities outlined in the GEPs, along with “Personale” (Staff) includes words like “Università” (University, 1733), “Docente” (Academic, 1183), “Studente” (Student, 1174), “Comunità” (Community, 741), “Rettore” (Rector, 676), “CUG” (Single Guarantee Committee, 652).

Table 1. The top 50 most frequent “full” words.

Genere	4468	26.	Ufficio	660
Azione	2768	27.	Corso	655
Personale	1733	28.	Cug	652
Ateneo	1626	29.	Equilibrio	642
Target	1577	30.	Diretto	642
Ricerca	1555	31.	Personale_Tab	617
Responsabile	1400	32.	Monitoraggio	602
Area	1271	33.	Organizzazione	598
Obiettivo	1176	34.	Servizio	595
Docente	1183	35.	Interno	592
Studente	1174	36.	Numero	591
Indicatore	1044	37.	Didattico	588
Valutazione	815	38.	Carriera	585
Lavoro	810	39.	Risorse_Umane	577
Istituzionale	790	40.	Violenza	575
Risorsa	784	41.	Outcome	574
Attività	762	42.	Comunicazione	566
Comunità	741	43.	Parità	521
Studio	736	44.	Indiretto	515
Opportunità	728	45.	Anno	502
Ricercatore	695	46.	Politico	499
Formazione	678	47.	Operativo	495
Rettore	676	48.	Finanziario	495
Vita	663	49.	Generale	493
Delegare	662	50.	Dipartimento	486

Although only partially, this initial analysis has made it possible to identify a presumed homogeneity within the texts drafted in the collected Gender Equality Plans (GEPs). These documents appear to reflect the bureaucratic principles underlying the requirement to develop such plans. The Italian universities analysed seem to have clearly addressed three key aspects: (i) the scope of the GEPs, (ii) their intended audience and the actors responsible for their implementation, and (iii) the mechanisms through which the proposed actions are executed and evaluated—not only as components of a plan but also from the perspective of bureaucratic compliance.

This preliminary finding is further supported by the results of the cluster analysis, which enables the identification of the main semantic groups within the corpus of analysed GEPs. The application of descending hierarchical analysis (Reinert's method) has allowed for the identification of three distinct "lexical worlds", each comprising a set of words that share a common contextual reference. The first cluster (in blue), accounting for 32.4% of the analysed corpus, encompasses terms primarily related to the actors involved in the processes and specific actions outlined in the plans. It highlights references to key responsible figures, particularly institutional actors who are tasked with ensuring the implementation of the plans and who play a central role in the execution of the GEPs. Some examples are the rector, the Committee for Equal Opportunities (CUG), and the general director. Additionally, the cluster contains references to operational personnel involved in various university communities, specifically technical-administrative staff and faculty members. Lastly, there are mentions of target groups, that is, the direct or indirect beneficiaries of the planned actions. However, despite the presence of references to those responsible for implementing the actions, at this level of analysis, it remains unclear why there are no explicit references—either direct or indirect—to the student community. Continuing with the description of the cluster analysis results, an additional point of interest lies in the composition of the other two clusters, which account for 14.4% and 53.2% of the corpus, respectively. Together, these two clusters represent most of the analysed corpus, totalling 67.6%. While this figure may initially seem of limited relevance, it highlights two significant aspects emerging from the analysis. First, it confirms that the thematic content of GEPs plays a primary role. Second, it suggests that considerable emphasis is placed on the objectives that these plans seek to achieve. The second cluster (in green), the smallest of the three, specifically focuses on a long-standing issue in gender equality discourse: the reconciliation of work and private life. This cluster contains explicit references to family care responsibilities, parenthood, support measures, and tools such as remote working arrangements and the creation of dedicated childcare support spaces. The third cluster (in blue), which alone accounts for more

than half of the analysed corpus, revolves around a central theme in both European and national debates: the strategic and conceptual need to integrate the gender mainstreaming at multiple levels within the academic community. This includes incorporating a gender perspective in research activities and outcomes, as well as in teaching activities. Moreover, this cluster features key themes within GEPs, such as career advancement and recruitment, as well as access to senior leadership positions. A particularly relevant aspect in this context is the close correlation between the themes addressed in a GEP and the structural elements that define the plan and facilitate the achievement of its objectives. This cluster, in fact, not only discusses the introduction of gender mainstreaming as a goal but also references the specific actions to be undertaken, along with the criteria and indicators used to evaluate the outcomes of these activities.

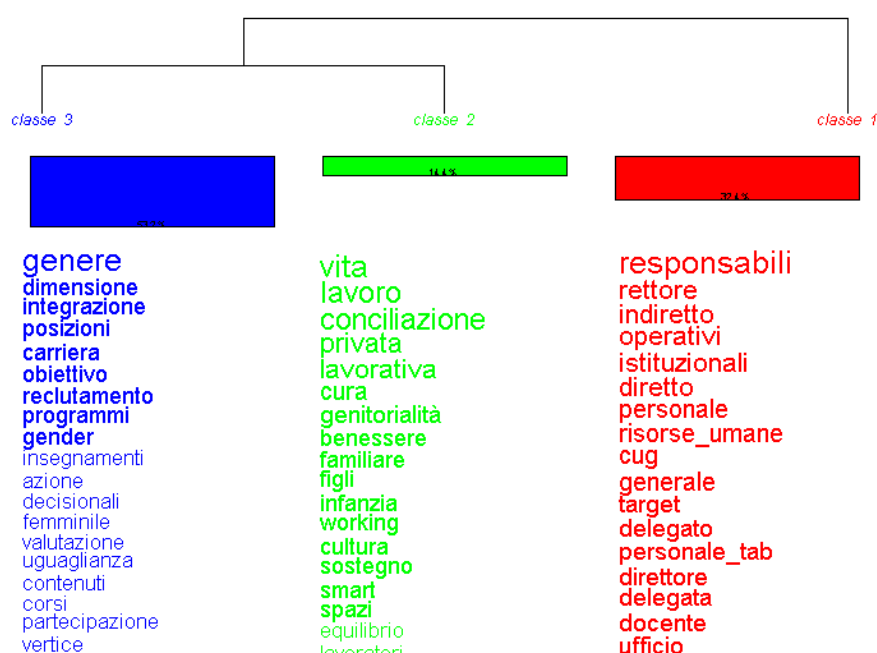


Figura 2. Dendrogram resulting from descending hierarchical cluster analysis (the Reinert method).

The second part of the research focused on factorial analysis of specificities and lexical correspondences. In other words, we chose to verify the presence or absence of specific textual peculiarities in the examined GEPs based on the two variables previously highlighted, which have already been applied in the description of the universities that make up the scope of the

analysis: specifically, we refer to the university size and the geographical area in which the main headquarters of the universities are located. In particular, the choice to use the tool of specificities and lexical correspondences analysis allows us to understand whether certain words are represented in specific reference contexts, known as sub-corpora, compared to an expected average concerning the entire analysis corpus. This analytical methodology allows for measuring, relative to an expected average value, the degree of internal specificity of a lemma in relation to the variable.

From the analysis conducted regarding the variable related to the university size, it was possible to identify a first relevant finding (Figure 3). It presents a mostly homogeneous situation with some peculiarities. There seems to be a less marked textual specificity in the contents of the GEPs of medium and small universities, while a clear differentiation is observed with those of mega and large universities. As indicated in Graph. 1, a central core composed of the most recurrent lemmas in the entire corpus (which have already been examined previously) is identified, along with three peripheral areas from which some specificities emerge. Mega universities (in red) are strongly characterized by the use of lemmas such as “Destinatario” (Addressee), “Presidio” (Facility), “Università” (University), “Art.” (abbreviation of article, referring to the legal issues). This overrepresentation compared to GEPs of universities belonging to other categories seems to respond to a dimension mostly rigidly linked to the bureaucratic necessity of drafting a plan that includes its interlocutors, roles, responsibilities, and references to the relevant legislation. The area concerning large universities (in green) indicates the presence of strong references to specific project dimensions such as “KPI” (Key performance indicator), “Budget”, “Action”, “Impatto” (Impact), “Carta” (referring to the European Charter of Researchers). The lexical dimension of medium universities (in light blue) highlights some specificities mainly related to the presence of specific actors involved and tasks to be performed. Indeed, terms such as “Borsista” (Scholarship recipient), “Staff”, “Divisione” (Division of work and resources), “Commissione” (Commission), “Ufficio” (Office) are present. Finally, the analysis of specificities and lexical correspondences regarding small universities (in purple) highlights an overrepresentation of lemmas attributable to both the temporal aspect of the plan, such as “Tempistica” (Timing) and “Mese” (Month) and the aspect more relevant to the implementation of the planned actions, such as “Obiettivo” (Objective) “Raggiungere” (To reach), and “Svolgimento” (Development).

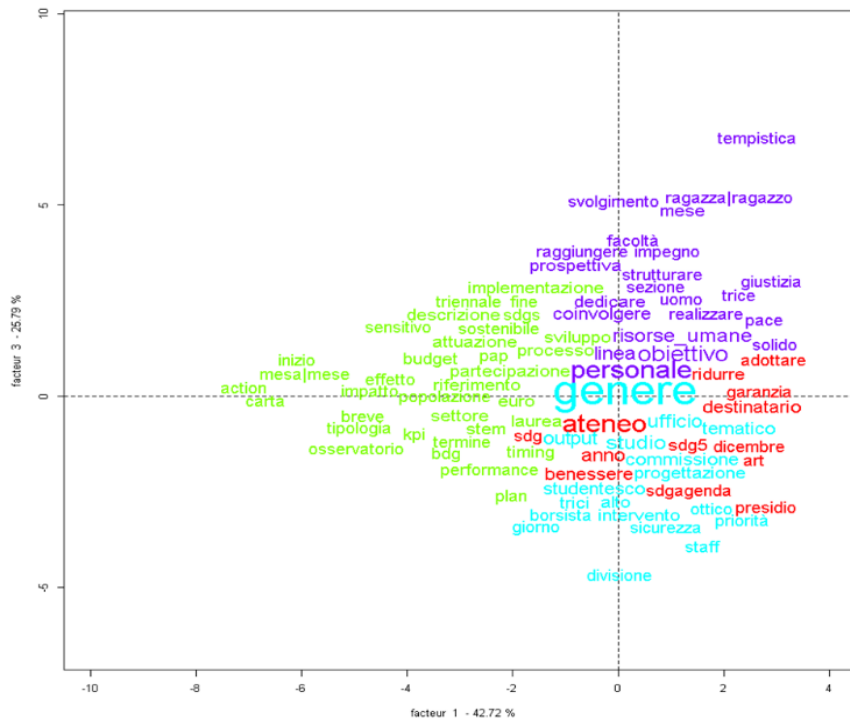


Figure 3. Representation on the factorial plane of the analysis of specificities and lexical correspondences with respect to the variable “size”.

Further elements of interest have emerged from the factorial analysis of the specificities and lexical correspondences carried out in relation to the geographical area in which the University operates (Figure 3). Regarding the Gender Equality Plans (GEPs) of the universities in the Northwest (in blue), there is an over-representation of the dimension related to life within the universities, for example, with the use of lemmas such as “Psql”, which is the acronym for the administrative area of the Politecnico di Torino called “Programmazione, Sviluppo, Qualità e Life” (Planning, Development, Quality and Life) that deals with issues specific to GEPs, and also “Bdg” which refers to Gender Balance Reports prepared by the universities. On the other hand, the gender equality plans related to universities in the Northeast (in green) seem to pay more attention than other Italian universities to some of the key elements useful for a precise definition of a GEP. In particular, terms such as “Targets”, “Implementazione” (Implementation), and “Necessario” (Necessary) are strongly over-represented, referring to the phase of implementing the actions envisaged by the plan and the human and financial resources necessary for carrying out the activities. The Central Italy area (in

6. Conclusive remarks

The representation of the adoption and implementation of Gender Equality Plans (GEPs) in Italian universities has shown how the cultural specificities of society and the structural characteristics of academic organizations influence processes, actors, and outcomes in the application of this tool to achieve full gender parity.

The chosen research field, as indicated by the most suitable analysis technique for its study - textual analysis of universities' GEPs - demonstrates a clear high degree of heterogeneity concerning the size of universities, the level of consolidation of their structures, the sensitivity towards gender issues, and the specificities of the socio-cultural context in which they operate. These elements are taken as reference points to attempt to interpret those points of convergence that GEP texts sometimes reveal among academic realities that appear similar.

The ideal typical outlines among groups of universities serve not to delineate a taxonomy, but to establish a connection between parity inputs and expected outcomes, presented in the literature as one of the models, the Intervention Logic Model, for studying the impact of change generated by the implementation of GEPs. This connection is certainly not linear, as might be suggested by the greater attention to indicators in Northern Italian universities or the relevance of the centralized manager of the Plan for smaller universities. Universities appear very heterogeneous among themselves but also constituted by complex structures in which the change induced by a design of parity actions is embedded, confirming many of the critical issues emerging in the literature. Resistance to the transformation and persistence of the traditional processes involve all levels of the academic structure, from the smaller practices (micro), through the university organisation (meso) and reflecting the social culture in which it is situated (macro). A pragmatic and mandatory development of the GEP for connected research funding, rather than the opportunity for a reconsideration of values in the mission; lack/absence of data and information on gender issues collected according to the logic of the GEP and not of the Gender Budget; difficulty in identifying the expertise that can enter the GEP Team; unconsolidated experiments of impact measurement tools of defined actions: these are some of the elements present in outlining the Italian condition using categories developed in the literature.

These latter elements also highlight how the recent adoption of the GEP by Italian universities places them in a state of advancement of techniques and applications not as mature as the experiences studied and analysed in the last two decades in the literature in Anglo-American, Australian, or Northern European contexts, the latter being a testing ground for the European

legislator. The possible future trend of studying the outcomes of GEP adoption beyond the first triennium in Italy may allow for acquiring more information within the same university for the iterative process of the Plan and among universities based on benchmarks such as the CRUI Guidelines. It is not excluded that with targeted attention from universities to institutionalization processes that have occurred abroad, their path to consolidating the adoption of the GEP may occur more rapidly and innovatively, providing a contribution of scientific interest to the literature on the subject.

References

- Bandura, A. (Ed.). (1995). *Self-efficacy in changing societies*. Cambridge: Cambridge University Press.
- Benschop, Y.W.M., & Verloo, M.M.T. (2011). Gender Change, Organizational Change, and Gender Equality Strategies. In E. L. Jeanes, D. Knights, & P. Yancey Martin (Eds.), *Handbook of Gender, Work & Organization*. Chichester: Wiley.
- Bolasco, S. (1999). *Analisi multidimensionale dei dati. Metodi, strategie e criteri d'interpretazione*. Roma: Carocci.
- Bolasco, S. (2005). Statistica testuale e text mining: alcuni paradigmi applicativi. *Quaderni di statistica*, 5, 1-38.
- Bolasco, S. (2013). *L'analisi automatica dei testi. Fare ricerca con il text mining*. Roma: Carocci.
- Bourdieu, P. (1971). Champ du pouvoir, champ intellectuel et habitus de classe, *Scolie*, 1, 7-26.
- Bührer, S., Reidl, S., Kalpazidou Schmidt, E. K., Palmen, R., Striebing, C., & Groo, D. (2019). Evaluation Framework for Promoting Gender Equality in Research and Innovation: How does gender equality influence research and innovation outcomes and what implications can be derived for suitable evaluation approaches?. *Journal for Research and Technology Policy Evaluation*, 47, 140-145. doi:10.22163/fteval.2019.332.
- Cacace, M., Balahur, D., & Bleijenbergh, I. (Eds.). (2015). *Structural Transformations to Achieve Gender Equality in Science: Guidelines STAGE*, Available at: http://www.stages.unimi.it/upload/documents/Guidelines_STAGES_new.pdf.
- Censis (2023). *La Classifica Censis delle Università italiane. Edizione 2023/2024*. Roma: Fondazione Censis.
- Council of the European Union (2021). Virtual Conference “Deepening the ERA Through Gender Equality” (8-9 July 2021) and Ljubljana Declaration on Gender Equality in Research and Innovation. Bruxelles: Publications Office of the European Union.
- Coghlan, D. (2011). Organization development and action research. In D. Boje, B. Burnes, & J. Hassard (Eds.), *The Routledge Companion to Organizational Change*. London: Routledge. doi: 10.4324/9780203810279.
- European Commission (2018). *Scenarios for an Award/certification System for Gender Equality in Research Organisations and Universities in Europe*. Available at <http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/s-waifs-11-2019>.
- European Commission (2020). *Communication From The Commission To The European Parliament, The Council, The European Economic And Social Committee And The Committee Of The Regions A Union of Equality: Gender Equality Strategy 2020-2025*, Available at eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020DC0152.

- European Commission (2022a). Annual Activity Report. Available at https://commission.europa.eu/publications/annual-activity-report-2022-research-andinnovation_en.
- European Commission (2022b). Communication from the Commission to the European parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on a European strategy for universities. Available at <https://education.ec.europa.eu/document/commission-communication-on-a-europeanstrategy-for-universities>.
- European Commission (2022c). Approaches to inclusive gender equality in research and innovation (R&I). Bruxelles: Publications Office of the European Union.
- European Commission (2023). COVID-19 impact on gender equality in research & innovation – Policy report. Bruxelles: Publications Office of the European Union.
- Fondazione CRUI (2021). Vademecum per l'elaborazione del Gender Equality Plan negli Atenei Italiani. Roma: Fondazione CRUI.
- Giuliano, L., La Rocca, G. (2008). L'analisi automatica e semi-automatica dei dati testuali. Software e istruzioni per l'uso. Roma: Led.
- Hill Collins, P. (2022). Intersezionalità come teoria critica sociale. Milano: UTET.
- Kalpazidou Schmidt, E., Krogh, G. E., & Nielsen, M. (2015). Aarhus University: Structural Transformation to Achieve Gender Equality in Science. In M. Cacace, D. Balahur, I. Bleijenbergh, D. Falcinelli, M. Friedrich, & E. Kalpazidou Schmidt (Eds.), *Structural Transformations to Achieve Gender Equality in Science: STAGES Guidelines*. Aarhus: Aarhus University.
- Kalpazidou Schmidt, E., & Cacace, M. (2019). Setting up a dynamic framework to activate gender equality structural transformation in research organizations. *Science and Public Policy*, 46(3), 321–338. doi:10.1093/scipol/scy059.
- Kalpazidou Schmidt, E., & Graversen, E. K. (2020). Developing a conceptual evaluation framework for gender equality interventions in research and innovation. *Evaluation Program Planner*, 79:101750. doi:10.1016/j.evalprogplan.2019.101750.
- Lancia, F. (2004). Strumenti per l'analisi dei testi. Milano: FrancoAngeli.
- Mergaert, L., & Lombardo, E. (2014). Resistance to Implementing Gender Mainstreaming in EU Research Policy. In E. Weiner, & E. MacRae (Eds.), *The persistent invisibility of gender in EU policy* European Integration online Papers (EIoP), 18(5). Available at SSRN: <https://ssrn.com/abstract=2523414>.
- Nielsen, M. W. (2015). New and Persistent Gender Equality Challenges in Academia. Aarhus: Politica.
- Ovseiko, P. V., Pololib, L. H., Edmundsa, L. D., Civianb, J. T., Dalyc, M., & Buchana, A. M. (2019). Creating a more supportive and inclusive university culture: a mixed-methods interdisciplinary comparative analysis of medical and social sciences at the University of Oxford. *Interdisciplinary Science Reviews*, 44(2), 166–191. doi:10.1080/03080188.2019.1603880.
- Ratinaud, P. (2009). IRAMUTEQ: Interface de R pour les Analyses Multidimensionnelles de Textes et de Questionnaires. Available at: <http://www.iramuteq.org>.
- Ratinaud, P., & Marchand P. (2012). Application de la méthode ALCESTE à de “gros” corpus et stabilité des “mondes lexicaux”: analyse du “CableGate” avec IraMuTeQ”. *Actes des 11eme Journées internationales d'Analyse statistique des Données Textuelles* (pp. 835-844).
- Striebing, C., Kalpazidou Schmidt, E., & Palménc, R. (2019). Pragmatic ex-ante evaluation using an innovative conceptual framework: The case of a high-tech entrepreneurship

program for women. *Evaluation and Program Planning*, 77, 101714, 1-11. doi:10.1016/j.evalprogplan.2019.101714.

Winchester, H. P. M., & Browning, L. (2015). Gender equality in academia: a critical reflection. *Journal of Higher Education Policy and Management*, 37(3), 269-281. doi:10.1080/1360080X.2015.1034427.