GENDERING
ACADEMIA

GEA Working Paper 2

2 REFRAMING VERTICAL GENDER SEGREGATION IN ACADEMIA

Arianna Santero, Maddalena Cannito and Manuela Naldini

2022

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GEA Working Papers

This series of working papers aims to present some of the outcomes emerged from the project GEA (GEndering Academia), a research project focused on gender asymmetries in Italian academic careers both in STEM (Science, Technology, Engineering and Mathematics) and SSH (Social Sciences and Humanities) disciplines. The main goal is to understand whether and in what ways gender differences and inequalities are (re-)produced at various stages of academic careers and how the micro (individual), meso (organisational) and macro (norms and policies) levels interact in supporting/hindering career success, from recruitment to retention and career advancement.

These are the three main issues that the project sought to investigate:

i) What is the role of differences at the individual level (between male and female researchers) in terms of aspirations, motivations, constraints and strategies in entering, pursuing or quitting academic careers (i.e. micro level)?

ii) What is the role of academic institutions (i.e. Departments, councils, committees at the national or local level) with respect to final decisions concerning recruitment of young researchers (PhD holders) and promotion of associate professors (i.e. meso level)?

iii) What are the impacts of the national (and supra-national) rules governing recruitment and promotion in the Italian university system on gender inequalities (i.e. macro level)?

Given the complexity of factors and levels involved in the construction of gendered academia, a mixed-method approach has been adopted, using both quantitative and qualitative methods:

1) statistical analyses of national secondary sources (ISTAT and MIUR data on PhD holders' occupational outcomes, as well as MIUR data on academic career progressions);

2) a web survey of all research and teaching staff of four Italian universities in order to collect measurable data on attitudes and behaviors on individuals' academic careers;

3) in-depth interviews with female and male researchers at early and middle stage of their career to identify the "push" and "pull" mechanism behind the gender imbalance in recruitment, career advancement and decision-making processes;

4) semi-structured interviews with key informants at the centre of governance and selection processes.

The results of the GEA project will be used to make policy proposals to be implemented at the local and national level. In particular, GEA has the ambitious goal of enhancing tools and policies designed to counter gender asymmetry in recruitment procedures and career advancement, promoting gender equality in the Italian academy.

Manuela Naldini and Barbara Poggio

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ABSTRACT

In neoliberal academia, women are still significantly underrepresented not only in early career stages, but also in full professorships and leadership positions. The paper focuses on career advancement gender gaps in Italy. It discusses the gender dimension of the parenthood penalty in academia, in research and teaching, and approaches to policies for reducing gender asymmetries in the university system. The study is based on 64 in-depth interviews with associate professors (32 female and 32 male) working in STEM and SSH departments in four Italian universities. It shows how associate professors reconstruct and explain their career progression, and the events and the processes that they believe have helped or hindered their advance to full professorships at individual, organizational and institutional level. Findings suggest that vertical segregation processes are at work in such gendered organizational contexts as universities, but also that women's ability to enact strategies of individual resistance or "success" as part of wider coping strategies to overcome gender disparity hinges on whether or not the organization takes positive action and implements gender equality plans. The analysis offers insights into how gender inequalities manifest themselves even in career consolidation processes, over a period marked by crucial institutional changes in the Italian university system.

Keywords: Gender equality, Career advancement, Italian academia, Vertical segregation, Institutional change.

INTRODUCTION

As neoliberal academia assigns growing importance to accountability processes, more and more Italian universities are adopting tools for evaluating and monitoring progress in achieving gender equity and to counter vertical gender segregation. One of the objectives included in Gender Equality Plans (GEPs)—and in Italian universities' Positive Action Plans (PAPs) and guidelines for Gender Budgeting (CRUI 2019)—is to increase the percentage of female full professors, monitored through the "Glass Ceiling Index". Women, in fact, are still significantly underrepresented not only in early career stages, but also in full professorships and in leadership positions.

The European Commission's "She Figures" report (2021) shows that the gender gap in various academic positions, though declining slightly, has remained substantial over time in all EU countries.[1] In Italy, women accounted for 23.7% of full professors and 38.4% of associate professors in 2018, while ten years earlier the corresponding figures were 19% and 34%, and in 2019 only 25.4% of heads of institutions in the higher education sector were women (European Commission 2021). The underrepresentation of women among full professors is found in all disciplines, but is particularly strong in physics, industrial and information engineering and medicine, which partly mirrors what we see at graduate level study (Bozzon *et al.* 2017a; Checchi *et al.* 2019; Murgia, Poggio 2018; Picardi 2019; Filandri, Pasqua 2019; Gaiaschi, Musumeci 2020).

Vertical gender segregation and underrepresentation of women in higher academic levels, including top decision-making positions, is widely recognized as another glass ceiling phenomenon (Roberto *et al.* 2020; Connell 2006; Wright *et al.* 2017; Solera, Musumeci 2017), i.e., women's difficulty in reaching the highest positions in organizations. Women can also be in "revolving door" situations (Acker 2014), where they hold managerial positions but have no straightforward career path and at some point, are pushed back down the ladder of the hierarchy. However, the idea of the glass ceiling suggests that the obstacles for women are concentrated - or in any case stronger - in the final stages of their career which, in academia, mainly concern the possibility of becoming full professors (Marini, Meschitti 2018) and attaining managerial positions (European Commission 2021). However, the difficulty women experience in reaching top academic positions is the result of cumulative disadvantages that build up over their entire career (Addis 2008). For this reason, our paper focuses on vertical segregation processes during the career and in particular on the gender gap in access to full professorships in Italy, one of the European countries where such segregation is still pronounced, outstripping the EU average (European Commission 2021).

A discussion of previous research and a methodological section will be followed by a presentation of the study's findings organized in three subsections exploring vertical gender segregation processes at the intertwined micro, meso and macro levels as they are experienced by male and female associate professors. In the first subsection, we look at the individual viewpoint, focusing in particular on motherhood penalties and on the narratives of "choice" applied to work-life balance and care duties. In the second subsection, we explore three main gendered organizational processes concerning evaluation, everyday interactions in work organizations and faculty members' involvement in research and teaching. In the last subsection, we look at the interviewees' opinions regarding institutional and cultural corrective actions and policies that could be implemented to reduce gender inequalities.

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[1] For an in-depth analysis on Italy, see also the recent work by Picardi (2019) and Gaiaschi and Musumeci (2020).

1. THEORETICAL LENS ON VERTICAL GENDER SEGREGATION IN ACADEMIA

As emphasized in the literature, gender inequalities in academia (and in research organizations) are constructed at different career stages (recruitment, retention and career advancement) and at different analytical levels (micro, meso and macro). Our starting point for accounting for persistent vertical segregation in the Italian university system draws on an analytical approach which looks at gender "as social structure", where gendered mechanisms and processes take place at three interdependent levels: individual (micro), interactional (meso) and institutional (macro).

Accordingly, theorizing about gender as social structure distinguishes between inequalities at the individual level, for the development of gendered selves; at the cultural level, since during (inter)action men and women have different cultural expectations; and in institutional domains, where explicit gendered regulations shape resource distribution (Risman 2004).

Although the underrepresentation of women in academia has long triggered scholars' interest, the debate around the main factors accounting for gender disparity, including vertical segregation, is still open. The question is whether it is due to overt gender discrimination, to unconscious gender bias, to gender gap in scientific productivity, or to "other" visible or subtle factors.

The mainstream literature takes two main approaches to accounting for gender imbalance: the first looks at discriminations, gender bias in evaluation processes and institutional barriers, while the second is based on self-selection explanations and gendered individual preferences (Carriero, Naldini 2022). Explanations based on discriminations are grounded in the idea of employers' unconscious gender bias and discriminatory behavior in both recruitment and in promotions. The origins of those gender biases can differ. Preconceptions and stereotypes about what masculinity and femininity mean, recruitment and promotion criteria based on an "ideal academic" (Lund 2015), the ideological beliefs about who is eligible for certain professions and positions (Witz 1990), and the way scientific "excellence" is constructed (Addis, Villa 2003; Addis 2008; Van den Brink, Benshop 2012) may play a crucial role. For instance, van den Brink and Benshop (2012, p. 2) have noted that "excellence" has become the "holy grail" in academia's emerging culture of managerialism: the idea that merit can be objectively measured through standardized criteria may make gender discrimination (and also inequalities among women) less visible (Gaiaschi 2021). By contrast, Pollard-Sacks (1999) claims that prejudiced outcomes are the result of unconscious bias. Other interpretations, more related to institutional barriers, hold that male-dominated workplaces might provide an environment where women face higher obstacles to being recruited or promoted (Doherty *et al.* 2006). In addition, gender biases appear to be at work in the perceived importance of the various components of academic work (Moss-Racusin *et al.* 2012). Women tend to be more involved than men in teaching and to devote more time to student support, yet in evaluation criteria "excellence" in research (i.e., number of publications) takes precedence over teaching in all scientific fields (Gadforth, Kerr 2009).

The second approach in the mainstream literature explains gender disparity in academia by focusing on "individual self-selection" mechanisms. In this corpus of literature, a set of different reasons are cited to explain the gender gap in scientific performance and women's disadvantaged position in career advancement. According to this perspective, women may have lower self-confidence, may be less competitive and more risk-averse (Azmat, Petrongolo 2014), and may have stronger preferences for family responsibilities than men (Hyde 2005; Croson, Gneezy 2009; Pautasso 2015). Bosak and Sczesny (2008), for instance, claim that women identify themselves as less suitable for higher ranks due to an inherent notion that associates masculine characteristics with leadership.

Several of the studies we have mentioned have a quantitative design focused on measuring the impact of one of the two explanations. However, studies on gender inequalities as a social structure have shown that there are mutually reinforcing processes in the three micro, meso and macro levels of analysis.

At the **micro-level**, women researchers are said to behave differently from men, since certain self-selecting processes may produce different choices in terms of research field, time allocation between work and family, and between teaching and research. As a result of such (individual) self-selection, female researchers tend to show lower productivity than their male colleagues (Jappelli *et al.* 2017; Abramo, D'Angelo 2015; Mairesse, Pezzoni 2015). Moreover, qualitative and quantitative studies of the gendered impact of the Covid-19 pandemic confirm that family asymmetries in care responsibilities may curtail female faculty members' time resources (Carreri, Dordoni 2020; Ghislieri *et al.* 2022). On the other hand, studies on the "motherhood penalty" on productivity (measured as publication output) found that female researchers with young children are less productive in terms of publications, but not in terms of research quality or impact (Lawson, Geuna, Finardi 2021). Moreover, women whose potential for a scientific career had been recognized by external award-giving committees are less impacted by the gendered effect of motherhood and its asymmetrical distribution of childcare responsibilities (Lutter, Schröder 2019). These findings suggest that academic rankings, far from being an "objective" and "neutral" proxy of individual scientific merit, are also heavily influenced by the "subjective" opinions and choices of research groups, members of evaluation committees and organizational processes. These results also suggest that evaluation processes may influence individual productivity.

At the **meso level**, organizational cultures and practices play a central role in shaping individual performance and careers (Murgia, Poggio 2015): universities, it is said, are "gendered" organizations (Acker 1990) that (re)produce normative models and gender inequalities. Worker models—typical of the neoliberal labor market—are illustrative in this respect, since the ideal worker is implicitly "masculine" (Blair-Loy 2003; Brumley 2014). In the university this model takes the shape of the "ideal academic" (Thornton 2013; Lund 2015) who is required to show total dedication and willingness to work and travel abroad as well as at home, with no question of career breaks. The homosocial nature of research networks ("old boys" networks) and gendered research areas also play a role in furthering men's careers and hindering women's. In addition, certain unconscious biases or prejudices concerning female candidates' performance on the part of evaluation committee members may be at work in promotion and evaluation processes (Pollard-Sacks 1999; Abramo *et al.* 2016; Goastellec, Vaira 2017; Anzivino, Vaira 2018; Filandri, Pasqua 2019).

At the **macro-level**, it is argued that women's disadvantages in academic careers are by and large related to prevailing gender roles in society. In particular, it is claimed that they are due to gendered norms on paid work and care responsibilities, and to the institutional reinforcement of these norms. In this cultural and institutional setting, care responsibilities and career breaks for family formation (i.e., due to pregnancy and maternity leave or childcare) have a role in reducing the time available to women for research and networking. Consequently, female researchers suffer from inequalities in the allocation of family responsibilities. These inequalities are further reinforced by weak and biased efforts for work-family reconciliation, which do not support women's dual role as academics and caregivers (and this, we can argue, also applies to male researchers with care responsibilities), by the lack of sufficient childcare facilities and working-time flexibility measures and by policies which emphasize mothers' roles over than fathers' (Lewis 2006; Solera 2009; Naldini, Saraceno 2011; Le Feuvre 2009; Bozzon *et al.* 2017b).

Considering academic careers over time in specific gendered contexts, this paper focuses on career advancement gender gaps in Italy. It discusses the gender dimension of the parenthood penalty in academia, in research and teaching, and approaches to policies for reducing gender asymmetries in the university system. It will answer the following research question: how do the gendered dimensions of individual life and preferences, academic activities and organizational cultures and policies, play a role and interact in increasing or reducing vertical gender segregation in academic career progressions in Italy?

2. DATA AND METHODS

The study is based on 64 in-depth interviews with associate professors (32 female and 32 male), working in STEM and SSH departments in four Italian universities located in different parts of the country. The semi-structured qualitative interviews were conducted online during the pandemic crisis in 2020-2021 as part of the "GeA – Gendering Academia" national research project (www.pringea.it).

The interview guide contained six sections: individual academic career, current daily working life, organizational cultures (current and past), wellbeing and work-life balance, perceptions of and satisfaction with the current position, and future prospects and policies.

The interviews were all transcribed verbatim and content analysis was carried out using Atlas.ti software.

3. RESULTS

This section focuses on three emblematic vertical gender segregation processes in academia: a) the motherhood penalty, b) evaluation of research and teaching, and c) policies to counteract gender asymmetries in academia.

3.1 Processes of vertical gender segregation and individual life course events: the motherhood penalty

In most cases, the interviewees describe academic evaluation criteria as gender neutral, especially in STEM disciplines, and maintain that promotions take place regardless of gender, as long as the candidates are "excellent". However, in line with the hypervisibility of "motherhood discrimination" (Zippel 2017; Gaiaschi 2021), and the widespread representations of the "specter of motherhood" (Thébaud, Taylor 2021), pregnancy and childrearing continue to be, in the interviewees' words, an obstacle in women's careers, because it forces them to interrupt their work and to reduce their productivity. Indeed, women currently in advanced career positions either postponed maternity after reaching a tenure-track position, or expressly chose to remain childless in order to avoid putting their career at risk. In some cases, they also explained that postponing parenting for years has resulted in involuntary childlessness.

> I have a child, I had him very late in life because before I dedicated my life to research, so I had a child when I was 43. (A_STEM_F_55_Carla) [2]

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[2] The code indicates in order: the university, the department's main research area (Science, Technology Engineering and Mathematics or Social Sciences and Humanities), and the respondent's gender, age and pseudonym.

For the same reasons, many mothers in academia tend to reduce maternity leave to the minimum and do not take additional parental leave, even if they are breastfeeding.

> To become a mother, I waited until I got a permanent position […]. So, I waited, my first daughter was born in '92, I had good pregnancies, so I used to go to the laboratory, to write papers, I never stopped. In '95 I had my second pregnancy, and I took only the mandatory maternity leave, three months after giving birth […], I breastfed for ten months the first time and six months the second. (B_STEM_F_62_Sandy)

Women with children in academia tend to encounter obstacles to promotion—and express individual coping strategies to contrast gendered expectations. This is also mentioned by male academics, especially those with a female partner working full-time, and/or those who are more "gender sensitive". This is the case of Sandro (52 years old, STEM), who has two daughters and has participated in an initiative against gender discrimination. He says: *"there are colleagues (women) and students (girls) who go on 'like a train', even if they have children"*.

Though respondents recognized that the motherhood penalty slowed career advancement, it was rarely questioned or considered illegitimate. In the organizational cultures prevailing in academia, these inequalities seem to be accepted as facts of life, structural constraints that do not depend on the universities and can be overcome only through personal effort and sacrifice (mostly by women). And yet, in some cases female interviewees who had children explain that they never interrupted academic work during pregnancy and the post-natal period, and that the support—informal and voluntary/"kind"—they received from their research group proved fundamental. This contrasts with the situation of other colleagues, for whom motherhood had severe consequences for their career.

This jibes with the operation of a widespread mechanism known as the "passion trap" (Armano, Murgia 2013; Busso, Rivetti 2014) which results in dynamics of self-exploitation and "voluntary" submission, on the one hand, and the acceptance of discrimination as part of society, on the other. Female respondents who had children in the early stages of their academic career explained that they faced additional career difficulties (penalties) because of the precarious nature of their job contracts, which were not always renewed or confirmed soon after maternity as they had wished. As Karen tells us, they struggled to continue working at the university, which they see as their vocation:

> When my daughter was born, I had no contract of any kind for two years and, on the one hand, I was expected to keep in contact with the university/ [ironic sigh], on the other, I was living a totally different life and could not count on any [income]. However, even in the most discouraging moments when I was thinking "This is unbearable" I never changed my mind because I knew that this [work] was the thing that made me happy. (B_SSH_F_46_Karen)

However, respondents tend to present their work environments as "gender neutral" given the prevalence of the "unconditional worker model" which applies to both men and women (though the asymmetric distribution of care responsibilities between mothers and fathers is recognized).

> I said to myself: I could take these [parental] leaves but in research you are cut off because you have to always be up to date…and the work environment, the Director was a very good person from a professional standpoint, but he had already fired some people, with no discrimination between men and women, this is a good thing, I never saw differences in this sense, but I did not want to stay at home for a further month of maternity leave so I kept going. […] What I see is that all these female full professors do not have a family, a partner, children […] because even if your partner is there for you, most of the work is on women's shoulders, you know, maternity, pregnancy et cetera. (B_ STEM_F_62_Sandy)

In other cases, female interviewees who do not have children either say that it was their "choice", or mentioned only the repercussions of overwork on their private life as a couple, as in the cases of two female STEM associate professors, Bea and Pia, who have interesting, and opposite, experiences with mobility.

> I don't think the academic career was the obstacle, I think I am the obstacle [...] if one decides to go to the United States and live abroad for a long time, this clearly means a life change ehh, it does. Then if one works as hard as I said, it is difficult to interface with people who do not lead the same life as you, but they are choices so I think one can choose … (D_STEM_F_44_Bea)

By contrast, Pia tells us that she passed up an opportunity to go to the United States in order to stay with her former partner, and missed this experience—which is considered very important in her research field—for the good of their relationship as a couple. She regards investing in family/private life and an academic career as incompatible, and speaks of the biological difficulty of having children after waiting too long.

> What I did was decide not to go to the United States because…to try to keep my former relationship alive, it didn't work/ [laughing]. But to be honest, I did…I mean, it was my choice, it was my choice but it changes several [things]…it's like Sliding Doors, I mean, if I did go maybe other things would have happened, not necessarily better things.
> **Sure. But do you wish you had had children?**
> Yes, I did, but in this case, work has nothing to do with that, I mean, it's biology…honestly, from this point of view if a miracle happened tomorrow and I got pregnant, that job…[pregnancy] would certainly become the priority. So, I didn't sacrifice anything because of work. I wasn't lucky, let's put it that way. (C STEM_F_48_Pia)

In addition, the difficulties in complying with the criteria for "excellence"—all of which are quantitative—are described as the result of a personal "choice" (to have children, despite the existing *"natural"* asymmetries). In some cases, especially in SSH disciplines, female associate professors spoke of the gendered care regime in the Italian society as unequal, but the academic context is seen as "neutrally" demanding full-time commitment.

3.2 Gendered research and teaching activities

The first analysis shows that more female interviewees than male interviewees feel that they have received little support and legitimacy during their careers. There is widespread feeling of being poorly supported, especially among respondents who have pursued non-mainstream research fields, regardless of how quickly their careers have advanced. More women than men in the sample explain that they have engaged in these non-mainstream areas, and have in some cases experienced processes of feminization of their research fields during their career. Notably, men who are involved in non-mainstream areas state that their careers have progressed more slowly than those of other professors.

Though there are differences between universities, departments and research fields, the practices reported by the interviewees seem to indicate that gendered working areas and scientific research groups are associated with male-dominated or female-dominated informal networks between colleagues who are interested and involved in different research areas. For this reason, the research groups' gender composition may be reflected in the gender composition of the informal research networks. Moreover, dealing with less central research areas often means having less funding, less space to carry out research, publishing less quickly and having fewer papers accepted by top journals.

> [In some fields] the groups are larger and more varied and publish more and, when you are in a big network, the publication rate increases and you receive more citations than in other field of research, like mine or others that border on other disciplines where the groups are smaller, sometimes you work alone or with one student […] so there are fewer people working and fewer citations. Sometimes I hear conversations like "Ok, this is trendy (let's invest in that)!" just because big numbers impress. (C_AC_STEM_M_50_Fosco)

At the same time, female associate professors working in male-dominated fields explained that they were able to legitimize their careers thanks to their decision to pursue innovative, interdisciplinary and less central research topics, which over time became more relevant and received more funding in Italy as their career advanced.

Furthermore, young male researchers' narratives tend to present the use of evaluation metrics based on the number of publications and citations as a neutral criterion. However, young female researchers whose careers benefited from the same criteria reported that they were de-legitimated by their colleagues, who framed the promotion as "inappropriate". In some cases, this view was shared by the women themselves.

When Bea, example, became an associate professor after achieving a high productivity score very quickly, she explained:

> There was a riot, I was in my forties among people in their fifties who were waiting for this position, and everything was caused by an algorithm made by the central university office […]. I am not extremely interested in economic aspects, I like doing things, being in the lab, but the more I advance [in her career], the less I can do what I like. So, I was not interested at that time, I did not feel ready for teaching, because having a teaching workload meant cutting time from what I liked. But now I am becoming part of the apparatus, I qualified for a full professorship right after that, but I don't think I will apply for one, at least in the near future, because I don't want to become a full professor, it's a terrible life. So, unless they force me, I won't do it. On the one hand, a full professorship is important […], you're able to decide on what research is done, on activities in the department […], but when we are young…it's a job that involves too much bureaucracy, too much management. I would go back to being an assistant professor, I don't want, I'd go back and get another PhD if I could. (D_STEM_F_44_Bea)

In addition, a few female interviewees told us that they did not have career ambitions, not only about promotion to a full professorship, but in some cases even to the position they had reached at the time of the interview, as associate professors, because they prefer to devote themselves to research and laboratory work, rather than management and research policy.

In these cases, however, the ambivalence of the earlier career stages discussed in the previous section seems to influence the subsequent career steps, de-legitimizing women's career advancement. This is true both when advances have been "rapid"—and tend to be unwelcome to the more senior male colleagues—and when they have been "slow" or tiring, slowed for example by the motherhood penalties or the fact of working in a gendered research field.

Several of the male respondents are also involved in activities that contribute less to a career, such as teaching, disseminating research results, or investigating fields of knowledge where publishing prolifically is less feasible, e.g., research that calls for prolonged data collection or analysis before publishable results can be obtained. This aspect surfaced in SSH as well as STEM, with especially far-reaching consequences in STEM and bibliometric sectors. And in these cases, male associate professors echo women's narratives about their career prospects.

However, the interviews touched repeatedly on the social construction of women's lower professional self-confidence, even when they have published widely and received high-level awards.

Take, for example, the case of Pia (STEM, 48, childless but not childfree). Thinking about her career path, Pia emphasized how she, unlike her male counterparts, needed time to think carefully before agreeing to act as Principal Investigator for a major national experiment. Thinking about her students' gendered career path, she says:

> The girls are equally interested, [...] there are the basic reasons which are… those that are usually brought out but that perhaps are brought out because it is convenient and [laughs] in the sense that there is the family, dealing with the elderly et cetera et cetera and surely they are... disproportionate ...even taking care of old people [...] in my opinion there is also a need for greater self-esteem in later stages to...let's say to apply for a chance to become a national coordinator... (C_STEM_F_48_Pia)

Our findings are also in line with previous studies showing that, since excellence and merit are measured in terms of publications (and citations in the case of STEM disciplines), teaching is considered less important than research. Since women are generally more involved in teaching, their career advancement is usually slower, but this is also true for men who take similar paths: this is the case of Harry (55, STEM) whose heavy investment in teaching slowed his career.

Moreover, the kind of teaching and subject-matter has different effects in terms of both horizontal and vertical segregation. For example, women tend to be involved in "service classes" (i.e., classes for other departments): such courses not only involve a teaching overload because they are often in more crowded degree programs, but they also do not make it possible to establish a "long-term" relationship with students or create a research group by recruiting graduate and PhD students.

> The case of the "service courses", they engage you more than, in our case, the course that you have in your degree program in *** [name of the discipline] because you deal with fewer students. It would be better to rotate, I mean, taking turns with each of us doing these kinds of classes, so everyone has a heavier teaching burden sometimes. […] It takes up a lot of time and you don't get anything out of it because in the service class your relationship with the students ends when you finish the class, the exams. (D_ STEM_F_53_Lia)

In SSH disciplines, even being able to teach in English can lead to teaching overload. This is what happens to some associate professors, mostly women, who have dealt with more marginal or interdisciplinary research topics at the beginning of their careers. Their research areas have gradually become more important in their discipline over time, and more attractive to students.

At the same time, attitudes towards administrative tasks are colored by persistent stereotypes about gender roles in work organizations: these stereotypes seem to intersect with academic position and age. Feeling overburdened by bureaucracy and the lack of administrative support in Italian universities, some senior male full professors seem convinced that these tasks should be delegated to junior female associate or assistant professors.

> At the beginning, the university was for many years in the hands of the male gender, the professors were all men and the full professor who is currently in our university belongs to that generation. […] He follows the dynamics that made him a professor, he relates much more easily on the work level with men than with women, the man is helped with his career, the woman is kept in a junior role because that way you can make her do things, teach classes for you, you can ask her to do the job that ought to be done by a secretary. And secretaries don't exist in the university world, at least in Italy; in the United States full professors have secretaries, and therefore [in Italy] there is this

habit that has yet to be undermined, especially with some professors of a certain age, who are now the most powerful ones, who pull the strings and these dynamics are still visible. (C_SSH_F_48_Stella)

The findings show how gendered work organization cultures and practices are interconnected with individual characteristics such as women's professional self-esteem, in a context where female career advancement paths are perceived and represented as counter-normative.

3.3 Policies vs. individual self-empowerment: opinions about positive actions and GEPs

In considering policy measures that might reduce gender imbalances, it is interesting to note that most of the interviewees (both men and women) consider gender quotas or other similar positive action to be counter-productive. In their view, those corrective mechanisms risk producing "reverse" biases, such as an additional underestimation of women's merits and excellence, or of being perceived as "unfair".

> Honestly, I don't think that any corrective action is needed, I think we are witnessing a legacy of the past, a carryover from a cultural dimension typical of twenty, thirty years ago that, in my opinion, no longer exists in Italy today…in academia it doesn't seem to me that there are…any, let's say, gender issues, at least in our branch. So, in my opinion, this is a gap that is being filled and that in few years will be closed. Conversely, there is the risk that by taking corrective actions you generate opposite bias that, in my view, will be on the reverse side, so…in my view, in this moment, I don't think that corrective action is necessary. (D_ STEM_M_53_Giacomo)

By contrast, respondents express agreement about work-life balance policies (and in particular care services, as Louis reports below)—since care duties (especially for children, as Karen explains)—are recognized as an obstacle to coping with an academic career's heavy workload and pressing demands.

> *What measures or policies and benefits could improve the quality of the professional and private life of faculty members in your position?*
> Um ... I think, from a, let's say female, point of view, not in my position, because by now I am too old, too grown up ... but a series of measures to support motherhood would be highly appropriate. Creating a small kindergarten ... private, let's say, or even just a babysitting service because I understand that maybe there aren't enough people to create a, a ... permanent kindergarten, it would be um ... it would really make life easier for women who are university professors, researchers and so on, because ... it is really difficult to reconcile motherhood ... with, with work, it's not ... it's not easy at all. So I think measures to support maternity would be important, very important. (A_AC_SSH_F_49_Dolores)

> Services, I think, services; more than money, services [...] provided by the university and the department as part of the university [...] daycare services for families who have, who have a child, in any case assistance services. (D_SSH_M_40_Louis)

> *In your opinion, which measures, policies or benefits, both nationally and at the university level, could improve the quality of the professional and private life of faculty members in your position?*
> But perhaps exactly the things that our university already does: that is, everything, that is the policies on children, summer camps, nursery schools and all those things. And keep in mind that ... there is another part that perhaps we are not talking about here: that is, that women are often involved in parental care [...]. Perhaps we could do a little more about that, I don't know how. It's a part that's less talked about. [...] And then, it's true that it happens at the end of your career, eh, so you can say oh well, but if he's a full professor and earns a lot of money a month I could have more help ... that's true. That's where the difference is. But I always say when, I don't know, for example when they say "well, but in this commission, we don't pick that one because he's got small children", right, there may be others. (B_SSH_F_46_Karen)

> The things I've seen done in recent years, that is, both kindergartens and summer camps for children, are commendable, commendable things. They also give an idea of the university as a bit more of a community, let's say, that is, the place where you can also find a solution to problems, of work-life balance, that's true. Maybe something else could be done. I think we need to do something about aid: I don't think it's conceivable or even desirable, um ... to differentiate between academics according to, to say, whether or not they have children, that's it, this doesn't make any sense. That is, it's right to lighten the burden, let's say, of ... parenting, bearing in mind that, in any case, people choose to have children, that is, it's not as if ... they are not an accident, you know. It's a choice, so you know. It would not make sense to say that if you have a child you get three more points in the competitions [for promotion], you know, just to be clear. This wouldn't make sense. Maybe it would up the birth rate, but it doesn't seem right to me. (B_Ssh_M_55_Harry)

The first quotation from Giacomo also exemplifies how widespread the "post-feminist approach" (Gill, Scharf 2011) is, even among academics. This approach sees gender inequalities as a legacy of the past that is now being overcome thanks to women's individual self-empowerment. Harry's comments, on the other hand, while recognizing that providing more care services is a legitimate concern, also purvey the idea that motherhood and its consequences on an academic career are a "choice" (as if that meant that the associated gender penalties are also a conscious "choice").

Belief in this paradigm may also explain why Gender Equality Plans, as systematic efforts to monitor, train and implement policies to promote gender equality that go beyond child care services, are encountering resistance and are not always well received in neoliberal academia.

The "unconditional worker model" and representations of science and research as areas of human life regulated by objective and non-discriminatory/gender-neutral norms predominate in the respondents' narratives. As regards parameters other than gender asymmetries—such as age and social class—there is an awareness that the precarization of the early stages of a research career increase socioeconomic asymmetries in recruitment, and that promotion assessment criteria have consequences on the type of academic and research activities that take place. As we mentioned earlier, these aspects influence vertical gender asymmetries in "productivity". In addition, several male and female respondents state that they influence the content of research and teaching activities, with the limitations described in the following interview excerpt.

> Well, all evaluations ... on a, how can I put this... a quantitative level, and thus based on numerology, prove nothing, because you can invent some dodge that tilts the balance or whatever. That said, you can't just start making a personal evaluation of everybody because… It's not possible, because it would take an enormous amount of manpower and time. Let's say that in the past some… shortcomings have been patched over, or some errors or some problems … that said, evaluation is generally something that comes from [mumbles] above, seen as a top-down thing, which has to be done, full stop. Does a professor work in such a way as to maximize these parameters? I don't think so, I think that a professor goes his own way. […] Some research policies have changed, which means that for example ... publish first to boost your numbers, maybe instead of doing longer, more systematic things, you have to do many smaller things because they count more, and so there are mechanisms that are a bit ... corrupt at first, but I can't suggest a ... solution, you submit to the, to the new instructions [mumbles] And you spend the day doing these things, that is, maybe it would be more interesting to spend three hours talking with the undergraduate and giving him some support, you know, instead of: I can't because tomorrow is the deadline and I have to upload the deliverables. (C_STEM_M_42_Dario)

In this excerpt, Dario also explains the individual strategies for coping with and adapting these "top-down" evaluation criteria.

Among other gender asymmetries, the motherhood penalty and inadequate support for work-family/life balance are seen as a disadvantage for women in society and to some extent in academic

work as well. However, the solutions and strategies that the interviewees pursued were mostly individual and informal. Our preliminary findings, based on field work done between March 2020 and May 2021, suggest that the language and framework of Gender Equality Plans have not yet permeated the representations of academic careers, especially in male-dominated research areas. While measures for balancing responsibility for care and paid work now seem more legitimate, there is little advocacy for other efforts to reduce vertical gender segregation in academia, i.e., to support gender-sensitive career progression, address the gendered dimensions of teaching and research activities, and reduce gender stereotypes in the language used in academia.

4. DISCUSSION AND CONCLUSIONS

The findings presented in this paper provide an understanding of how associate professors working in different scientific fields, departments and universities in Italy represent and explain their career progress, and the events and processes that they believe have helped or hindered their advancement, thus yielding insights into how the micro, meso and macro levels of the social structure lead to vertical gender segregation in academia. In particular, the paper explored how some life events—such as parenthood—and academic activities—both teaching and research—are still gendered and stratified, and can thus also produce disadvantages for men. Moreover, the paper highlighted how these processes were largely implicit and taken for granted by associate professors. Most stated that they have low expectations for policies and measures to promote gender equality in academia.

However, individual self-selection processes—presented in these terms by both male and female respondents—are heavily dependent on gendered barriers and opportunities at the institutional and organizational level.

For example, even though it is widely recognized that work-life balance burdens fall mainly on women's shoulders, most interviewees take a very individualistic approach which underestimates the role of structural constraints and the gendered organizational context. On the other hand, respondents spoke of micro-aggressions and de-legitimation of female associate professors' slow career advancement and research fields, together with their disinclination to apply or compete for full professorships. Nevertheless, they tended to present this as their own "choice".

These findings suggest that three interrelated gendered processes operating at the intersection of the micro, meso and macro levels of the gender structure influence vertical gender segregation in academia: *i.* the low self-esteem and women's self-exclusion and self-selection found in previous studies seem to be deeply rooted in the development of female and male careers and transitions over time. In particular, the cultural, institutional and relational gendered work contexts in academia tend to delegitimize women's career advancement. *ii.* These gendered contexts affect women's self-confidence—and the self-perceived appropriateness of their career advancement in particular—unconsciously, especially among respondents in STEM disciplines. These aspects tend to reinforce the tendency to represent science and research work as gender neutral—and consequently to increase individuals' propensity to blame themselves and look for individual strategies, instead of advocating for positive action and policies. *iii.* Where female interviewees express a weak desire for promotion—and this is not always the case—career progression to a full professorship is not considered desirable not only for the previous delegitimating processes, but in some cases apparently also because of their preference for specific academic activities, relating in particular to seeing research as a vocation and the pleasure they take in discovery. Gendered and stratified research fields and academic activities also tend to influence networking, funding and (gendered) career advancement.

In other words, the lower propensity to seek full professorships, to "compete", or to invest in activities considered to be more directly central to career advancement, did not reflect less involvement in or dedication to the quality of research and teaching. Indeed, in some cases the opposite seems to be true. These findings suggest the limits of the standardized quantitative evaluation processes that use academic productivity as a proxy of "excellence" and "merit", since they tend to reinforce the neoliberal "unconditional worker model", and also to exacerbate the asymmetries between mainstream research areas and other female-dominated or less gendered areas, as well as between competitive work styles and cooperative ones. Vertical segregation is at work in such gendered organizational contexts as universities, but women's ability to enact practices of resistance or "success" hinges on whether or not the organization takes positive action and implements gender equality plans.

Against the backdrop of the so-called "neo-liberal" turn, the analysis illustrates how gender inequalities manifest themselves even in career consolidation processes, in a period marked by such sweeping changes in the Italian university system as the flexibilization of assistant professorships, the partial (re)centralization of career advancement procedures (i.e., the National Scientific Qualification accreditation scheme), and cuts in public funding for academia.

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