



# **The Education of Gender The Gender of Education Sociological Research in Italy**

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**Maddalena Colombo**  
**Luca Salmieri**

The Education of Gender. The Gender of Education  
Sociological Research in Italy

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CONTENTS

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<b>1</b>	<b>Gender and Education in Italy</b> <i>Maddalena Colombo, Luca Salmieri</i>	7
<b>2</b>	<b>Girls and Boys at School Do Gender Differences Still Matter?</b> <i>Fabio Corbisiero, Antonella Berritto</i>	25
<b>3</b>	<b>Female Hegemony among Italian Educational Professionals</b> <i>Maddalena Colombo, Paolo Barabanti</i>	43
<b>4</b>	<b>Gender Differences in Higher Education Choices Italian Girls in the Corner?</b> <i>Marco Romito, Tiziano Gerosa, Martina Visentin, Giulia Maria Cavaletto</i>	61
<b>5</b>	<b>Gender Differences in Tertiary Educational Attainment and the Intergenerational Transmission of Cultural Capital in Italy</b> <i>Luca Salmieri, Orazio Giancola</i>	77
<b>6</b>	<b>Gender, Social Origins, and Educational Choices How it really works</b> <i>Orazio Giancola, Simona Colarusso</i>	95
<b>7</b>	<b>Computer Skills and Employment A Comparative Gender Study</b> <i>Sara Binassi, Claudia Girotti</i>	111
<b>8</b>	<b>Coding and Educational Robotics Gender Stereotypes and Training Opportunities</b> <i>Daniela Bagattini, Beatrice Miotti, Valentina Pedani</i>	129
<b>9</b>	<b>Gender Gaps in Financial Education The Italian Case</b> <i>Luca Salmieri, Emanuela E. Rinaldi</i>	141
<b>10</b>	<b>Contradictions and Critical Limitations of the Gender Category in the Use of OECD-PISA Datasets</b> <i>Marialuisa Villani, Chiara Carbone</i>	169
<b>11</b>	<b>Reading Networks through “Gender Lenses” Scientific Collaborations at the University of Naples, Federico II</b> <i>Ilaria Marotta</i>	183
	<b>Notes on contributors</b>	201

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## 4 *Gender Differences in Higher Education Choices. Italian Girls in the Corner?*

Marco Romito, Tiziano Gerosa, Martina Visentin and Giulia Maria Cavaletto

### INTRODUCTION

In recent decades, many scholars have argued that youth transitions have become more complex, heterogeneous, and fragmented in most developed countries (France, 2016). The body of research they generated has shown, however, that factors pertaining to young people's identities and ascribed membership still play an important part in structuring their horizons of actions and transition choices (Struffolino, Borgna 2020). Gender is a key aspect of differentiation and inequality, with an enormous impact on young people's trajectories in their education and occupations (Benadusi et al., 2009). We here focus on the transition from school to higher education, which crucially influences an individual's working opportunities and social standing in adult life (Bobbitt-Zeher, 2007). We review the literature on this subject and examine the Italian case, using data from the Italian Institute of Statistics (Istituto Nazionale di Statistica - ISTAT) to show how gender inequalities have been reconfigured today as an issue of unequal access to specific fields of study. We discuss policies to address the gender gap in higher education, focusing on the role that schools and guidance services can have in reducing this divide.

Since the end of World War II, western countries have witnessed a massive expansion in their education systems, particularly involving upper secondary and tertiary education (Marginson, 2016). In most countries in the global North, nearly one in two young people have access to tertiary education, and an even larger proportion of students successfully complete their secondary education (Trow, 2006). This massive growth in academic participation has especially concerned women, who still faced severe limitations in the field of education at the beginning of the 20th century. Female students generally have better examination grades than males and, in most countries, women do better academically than men, but that does not mean that gender equality has been achieved (Buchmann et al., 2008; OECD, 2019).

Concerns have emerged regarding the role of gender in access to specific fields of education (Hendley, Charles, 2015). This is very important

as it helps to explain gender inequality in the labor market and in income levels (Bobbitt-Zeher, 2007). Research has fully demonstrated that strong gender differences exist, shaped along a humanistic–scientific divide, with females under-represented in STEM-related areas (Gerber, Cheung, 2008; Jacobs, 1996). Such findings show a remarkable stability across different countries revealing the persistent structural forces underlying gender segregation (Van De Werfhorst, 2017). The debate on this issue has focused mainly on the problem of female under-representation in some areas of study (and consequently in the related job markets), but there have also been calls for reflection and intervention to deal with the stereotypes influencing males' choices (Stoet, Geary, 2018).

Examining the processes that give rise to gender-related differences in higher education trajectories is clearly important, not only to advance our sociological understanding, but also - and more meaningfully - to identify measures and action to enhance equity in education, in the labor market, and in society as a whole. This understanding provides the necessary backdrop to the gender-sensitive lifelong guidance practices that we discuss in this chapter.

In the following sections, we first outline the main theoretical framework used in sociological research to explain gender-driven differences in choices of university course. Then, we use data from ISTAT to identify and measure the effect of gender on students' choice of university course in Italy. We conclude with a critical reflection on the topic of guidance policies to enhance gender equity in students' decisions regarding their higher education in Italy.

## **2. GENDER SEGREGATION IN HIGHER EDUCATION**

According to OECD (2019) data, many countries around the globe have witnessed a meaningful increase in female participation in tertiary education. The analysis of long-term trends shows a significant increase in the numbers of female students in several fields of study once dominated by men (Triventi, 2010). This has not necessarily coincided with a reduction in gender inequalities, however. When we look at disciplines such as the hard sciences, engineering or computer science, and compare the share graduates across men and women, the gender gap has shown no sign of shrinking (Barone, 2011). Even when younger cohorts of students are considered, there have been fewer signs of change in females' probabilities to enrol in scientific or technical fields of study (De Vita, Giancola, 2017). Emphasizing the need to move beyond treating STEM as a homogeneous field and looking at differences between STEM disciplines may shed light on more complex ways in which inequalities persist in a context of expanding educational opportunities. It has been pointed out that the humanistic-scientific divide does not tell the whole story about gender segregation: there is also evidence of gender unbalance within the

humanities or sciences, which reveals an opposition between care and technical fields that needs to be addressed (Barone, 2011).

The sociological literature points to two major theoretical sensibilities applied to the study of gender differences in higher education. One assumes that people's choices are cognitive and rational processes completed by individuals dealing with specific representations of their opportunity-cost structure (Udehn, 2001). The other sees choices as the outcome of embodied cultural dispositions constructed by dominant representations and gender ideologies and through social interaction within everyday life contexts (Bourdieu, 1994; Davis, Greenstein, 2009). A rigorous testing of these theories goes beyond the scope of this chapter, but it may be useful to give a brief account of them because they can help us interpret the data presented in the next section. They can also support some of our considerations on the potential role of institutions in reducing gender differences in individuals' study choices.

Setting aside the outdated approaches based on the assumption of innate differences that predisposed men and women to embark on different careers, many scholars have so far drawn on theories of rational choice and preference (Breen, 2001). According to rational choice theory, individuals orient their educational trajectories toward options that increase their chances of success (Breen, Goldthorpe, 1997). As girls outperform boys in literary or humanist disciplines, they choose fields of studies for their higher education in which they can exploit this comparative advantage (Jonsson, 1999; Vaarmets, 2018). Moreover, according to preference theory, women opt for fields of study with lower career and income prospects because they are aiming for occupations that afford a good family-work balance (Hakim, 2006).

Rational choice and preference theories have both been widely tested, and the hypotheses drawn from these theories seem untenable (Barone, Assirelli, 2020). First of all, male and female students perform very similarly in math and sciences in many western countries (Vaarmets, 2018), and this would suggest that differences in choice of higher education cannot be explained by gender divides previous school performance (Morgan et al., 2013). Second, studies have shown that needing to strike a good work-family balance carried little weight on young girls' educational and occupational preferences and aspirations which have narrowed in recent years (Bobbitt-Zeher, 2007; Hakim, 2006; Konrad et al., 2000).

A different theoretical approach to explaining gender differences in educational choices focuses on the cultural dynamics in which educational preferences emerge, and the perpetuation of gender stereotypes in society at large (Bourdieu, 2001; Davis, Greenstein, 2009). Girls would develop a preference for subjects and fields of study characterized by a closer proximity to their traditional reproductive role in society, focused on the domestic realm and care occupations (Charles, Bradley, 2009; Di-Prete, Buchmann, 2013) This interpretation has been supported by studies showing that girls opt for fields of study that lead to care occupations due to an "expressive" motivation (Barone, Assirelli, 2020; Morgan et al., 2013). This seem to support the idea that gender segregation in higher education is based both on a sense of affinity for certain subjects, through which students construct socially legitimate female or male selves at

school, and on social expectations associated with normative conceptions of femininity and masculinity (Connell, 2005).

Scholars have also emphasized, however, that embodied dispositions and internalized gendered preferences need to be constantly secured and reiterated through some form of external pressure or social control mechanism (Eccles, Jacobs, 1986; Jacobs, 2005). It is worth mentioning that research has also looked at the part played by institutions, teachers and school counsellors in enforcing gender norms (Barone et al., 2019; Cheryan, Plaut, 2010; Gunderson et al., 2012). Our data suggest that institutions (teachers, counsellors or career orientation experts) have space for intervention and can be mobilized to deconstruct gender norms - or at least mitigate their effect on career choices. We will argue that lifelong guidance services, whose importance is currently emphasized by EU and national policies, can play a key – although neglected – role in reducing gender segregation.

### **3. GENDER-BASED INEQUALITIES IN ITALIAN TERTIARY EDUCATION. BEYOND RATIONAL EXPLANATIONS FOR STUDENTS' CHOICES**

In this section, we use data collected by ISTAT to investigate the nationwide persistence of gender inequalities in access to tertiary education and the choice of field of study. We look at the educational trajectories of students leaving Italian upper secondary school, in the light of their previous school experience and personal preferences. The survey was conducted in 2015 on a nationally representative sample of 26,235 individuals who had obtained their high-school diploma four years before (2011). Participants were invited to complete a questionnaire collecting information about their socio-demographic characteristics, past educational experience, and post-secondary transitions. The descriptive statistics of the sample are given in Table 1.

We first investigate gender inequalities in access to tertiary education, looking at the overall differences in enrolment rates for males and females, and at the mediating role of different types of secondary school program, academic performance, and personal preferences (Table 2). A baseline logistic regression model was estimated on the overall sample (Model 1), with students' enrolment at university within four years after graduation predicted by gender and a set of family-level covariates, including citizenship (Italian vs foreign), parents' educational level (considering the better-educated of the two, based on the dominance criterion), and social class (according to the EGP 3-class typology: working class, intermediate class, salariat). The results of our analysis show that, after controlling for citizenship and family resources, females are 15% more likely to enrol at university than males.

**TABLE 1.** *Descriptive statistics of the sample*

Variable	Mean (SD)	Frequency (%)
<i>Socio-demographic characteristics</i>		
Gender: female		14,520 (55.4)
Citizenship: Italian		25,547 (97.4)
Family education level		
up to middle school diploma		8,438 (32.2)
high school diploma		12,346 (47.1)
university degree or higher		3,782 (14.4)
not stated		1,669 (6.4)
Social class (EGP)		
working class		15,131 (57.7)
intermediate class		7,784 (29.7)
salarial		1,821 (6.9)
not stated		1,499 (5.7)
<i>Secondary school experience</i>		
Type of school		
scientific high school (lyceum)		3,786 (14.4)
other high school (lyceum)		2,148 (8.9)
teacher-training school		3,582 (13.7)
art school		2,310 (8.8)
technical school		5,641 (21.5)
vocational school		8,631 (32.9)
not stated		137 (0.5)
Private/State-run school management: State-run		24,965 (95.2)
Final high-school grade	75.6 (11.5)	
Switching courses during high school		3,578 (13.4)
Repeated at least one school year		5,692 (21.7)
Conditional advancements		12,855 (49.0)
<i>Tertiary education</i>		
Personal preferences after diploma		
to enroll at university		13,430 (51.2)
to enter the labor market/professional training		10,599 (40.4)
no idea		2,206 (8.4)
Reasons for choosing course of study		
interest in the discipline		7,402 (28.2)
better job opportunities		5,616 (21.4)
other reasons		601 (2.3)
no further studies		12,616 (48.1)
Course of study		
Architecture		659 (2.5)
Economics and Statistics		1,751 (6.7)
Law		1,072 (4.1)
Engineering and Sciences		2,343 (8.9)
Teaching		631 (2.4)
Literature and Languages		2,310 (8.8)
Medicine		1,729 (6.6)
Political and Social Sciences		1,106 (4.2)
Psychology		856 (3.3)
other courses of study		1,162 (4.4)
no further studies		12,616 (48.1)

To explore the variables and mechanisms behind this gap, we proceed with an estimation of a set of additional logistic regressions, introducing other three sets of covariates. The former group (Model 2) includes past educational choices (type of school and whether it was private or State-run), the second group (Models 3) focuses on past school performance (final grade, changing course of studies as a proxy for a fragmented educational path, and having to repeat at least one school year) and the third group (Model 4) deals with personal preferences for after completing

secondary school (to attend a professional training course, to enter the labour market, no idea, to enrol at university).

**TABLE 2.** *Logistic regression model on University enrollment: predicted probabilities*

VARIABLES	University enrollment			
	Model 1	Model 2	Model 3	Model 4
Gender (ref. Male)				
female	0.155*** (0.006)	0.068*** (0.006)	0.037*** (0.006)	0.004 (0.005)
Citizenship (ref. Italian)				
foreign	-0.069*** (0.021)	0.059*** (0.017)	0.069*** (0.016)	0.020 (0.013)
Family education level (ref. up to middle-school diploma)				
high-school diploma	0.213*** (0.007)	0.108*** (0.006)	0.091*** (0.006)	0.052*** (0.005)
university degree or higher	0.435*** (0.009)	0.225*** (0.010)	0.195*** (0.010)	0.101*** (0.008)
Social class (ref. working class)				
intermediate class	0.052*** (0.007)	0.015** (0.006)	0.009 (0.006)	0.005 (0.005)
salariat	0.091*** (0.013)	0.041*** (0.012)	0.029*** (0.011)	0.013 (0.009)
Type of school (ref. scientific high school)				
other high school		-0.021** (0.009)	-0.034*** (0.010)	-0.034** (0.014)
teacher-training school		-0.176*** (0.010)	-0.170*** (0.010)	-0.107*** (0.011)
art school		-0.498*** (0.012)	-0.486*** (0.011)	-0.331*** (0.012)
technical school		-0.409*** (0.009)	-0.391*** (0.009)	-0.166*** (0.011)
vocational school		-0.659*** (0.008)	-0.625*** (0.008)	-0.304*** (0.012)
Private/State-run school management (ref. private)				
State-run		0.091*** (0.013)	0.057*** (0.012)	0.032*** (0.010)
Final high-school grade			0.008*** (0.000)	0.004*** (0.000)
Changing course of studies (ref. no)				
yes			0.051*** (0.008)	0.025*** (0.006)
Repeated at least one school year (ref. no)				
yes			-0.063*** (0.007)	-0.030*** (0.006)
Conditional advancement (ref. no)				
yes			-0.008 (0.006)	-0.008* (0.005)
Personal preferences (ref. to enroll at university)				
enter labor market/professional training				-0.563*** (0.008)
no idea				-0.255*** (0.010)
Observations	23,533	23,533	23,533	23,533

Standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Model 2 shows that respondents' chosen type of secondary school was significantly associated with their likelihood of going on to university: students attending art, technical and vocational schools were 50-66% less likely to go to university than those attending scientific high schools (our reference category). Adding such covariates to the model significantly



contributes to reducing the gender gap in university enrolments, with girls lowering their advantage by about 8%.

The introduction of the second set of covariates in the model (Model 3) contributes to a further reduction in female advantage in enrolment rates, with girls retaining a less than 4% greater access to university after controlling for previous educational choices and past school experience. The gender gap initially identified is further reduced, and no longer statistically significant, after controlling for students' personal preferences after obtaining their diploma (Model 4).

Overall, these results show that girls' initial advantage in university enrolment rates is wholly explained by their better school performance, and by the fact that girls tend to be more strongly represented at more academically oriented secondary schools. This finding seems to support the conviction that male and female students choose whether to go on to university based on a rational reasoning regarding their chances of success.

The picture changes, however, when we consider what subjects students choose to study at university. Looking at gender specific enrolment rates across disciplines<sup>4</sup>, we clearly found two opposite patterns in the choice of university courses. Indeed, females choose for STEM disciplines in the fields of engineering and sciences much less often than males, reporting a gross average difference about 17%. Conversely, and in line with previous research on gender segregation (Barone, 2011), females express clear preferences for humanities and social science disciplines specifically focused on education and caring, with advantages around 10% for literature and languages and 6% for psychology and teaching courses of study.

We then conducted an additional set of analyses on the subsample of respondents who decided to go to at university, modelling gender differences in the likelihood of enrolling to study STEM (engineering and sciences), as opposed to humanities and caring-oriented social sciences (literature and languages, psychology and teaching). The first column in Table 3 shows that being a girl reduces the probability of choosing a STEM course by 18%, irrespective of student's socio-demographic characteristics (Model 1). Adding the first set of covariates in the model (concerning the type of upper secondary school students choose after middle school) contributes to a consistent reduction of about 5% in the divide (Model 2). The gender segregation persists after controlling for past school performance (Model 3), and for personal reasons for choosing a given course of study (interest in the discipline or better job opportunities rather than other reasons) (Model 4). The final divide remains, with girls 14% less likely to choose a STEM course than boys.

Similar results, but tending in the opposite direction, emerge for students choosing to study social sciences and humanities, with girls retaining a 16% higher probability of doing so than boys, regardless of their previous school experience and personal motives.

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<sup>4</sup> Gender differences in enrolment rates by discipline (females compared to males): architecture = -1.1%; economics and statistics = -5.4%; law = 1.7%; engineering = -16.8%; teaching = 5.5%; literature and languages = 10.2%; medicine = 1.9%; political and social Sciences = 3.8%; psychology = 6.4%; sciences = -3.1%.

**TABLE 3.** *Logistic regression models on STEM or humanities enrollment: predicted probabilities*

VARIABLES	STEM				Social sciences and humanities			
	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4
Gender (ref. Male)								
female	-0.180*** (0.006)	-0.132*** (0.007)	-0.141*** (0.007)	-0.141*** (0.007)	0.235*** (0.008)	0.153*** (0.009)	0.161*** (0.009)	0.162*** (0.009)
Citizenship (ref. Italian)								
foreign	0.004 (0.024)	0.005 (0.024)	0.012 (0.024)	0.012 (0.024)	-0.106*** (0.030)	-0.078*** (0.029)	-0.080*** (0.029)	-0.078*** (0.029)
Family education level (ref. up to middle-school diploma)								
high-school degree	0.013 (0.008)	0.006 (0.008)	0.005 (0.008)	0.005 (0.008)	0.009 (0.010)	0.013 (0.009)	0.014 (0.009)	0.014 (0.009)
university degree or higher	0.011 (0.010)	0.003 (0.010)	-0.000 (0.010)	-0.000 (0.010)	-0.015 (0.012)	-0.011 (0.012)	-0.009 (0.012)	-0.008 (0.012)
Social class (ref. working class)								
intermediate class	0.010 (0.007)	0.007 (0.007)	0.005 (0.007)	0.005 (0.007)	-0.037*** (0.009)	-0.035*** (0.008)	-0.034*** (0.008)	-0.034*** (0.008)
salariat	0.008 (0.012)	0.006 (0.011)	0.002 (0.011)	0.002 (0.011)	-0.054*** (0.014)	-0.052*** (0.014)	-0.051*** (0.014)	-0.051*** (0.014)
Type of school (ref. scientific high school)								
other high school		-0.158*** (0.010)	-0.158*** (0.010)	-0.158*** (0.010)		0.198*** (0.013)	0.202*** (0.013)	0.202*** (0.013)
teacher-training school		-0.166*** (0.010)	-0.158*** (0.010)	-0.157*** (0.010)		0.251*** (0.012)	0.243*** (0.012)	0.243*** (0.012)
art school		-0.114*** (0.014)	-0.106*** (0.014)	-0.105*** (0.014)		0.177*** (0.017)	0.169*** (0.017)	0.166*** (0.017)
technical school		-0.024** (0.011)	-0.020* (0.011)	-0.019* (0.011)		0.002 (0.011)	-0.000 (0.011)	-0.004 (0.011)
vocational school		-0.121*** (0.011)	-0.113*** (0.012)	-0.112*** (0.012)		0.110*** (0.013)	0.103*** (0.013)	0.099*** (0.014)
Private/State-run school management (ref. private)								
State-run		0.064*** (0.016)	0.045*** (0.016)	0.045*** (0.016)		-0.062*** (0.016)	-0.051*** (0.017)	-0.050*** (0.016)
Final high-school grade								
			0.003*** (0.000)	0.003*** (0.000)			-0.001*** (0.000)	-0.001*** (0.000)
Changing course of studies (ref. no)								
yes			-0.024* (0.013)	-0.024* (0.013)			0.012 (0.013)	0.012 (0.013)
Repeated at least one school year (ref. no)								
yes			-0.018 (0.011)	-0.017 (0.011)			0.019 (0.013)	0.018 (0.013)
Conditional advancement (ref. no)								
yes			-0.006 (0.008)	-0.006 (0.008)			0.032*** (0.009)	0.031*** (0.009)
Reasons for choice of course of study (ref. interest in the discipline)								
better job opportunities				0.028* (0.015)				0.001 (0.015)
other reasons				0.030** (0.015)				0.060*** (0.015)
Observations	12,704	12,704	12,704		12,704	12,704	12,704	12,704

Standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

To sum up, two interesting outcomes emerged from the second stage of analysis. On the one hand, our findings suggest that secondary-school education programs have a meaningful influence on students' choices regarding their tertiary education. Female students mostly join secondary-

school programs in the fields of caring-oriented social sciences and humanities, and this seems to guide them, to some extent, towards university courses consistent with their previous studies. Although only a relatively small piece of gender segregation can be attributable to previous school choices, it should be underlined that, in our study, the mediating role played by high schools may have been underestimated by a lack of information on specific courses attended by participants.

Indeed, technical and vocational schools offer both STEM-oriented and service-oriented courses. Courses such as mechanics, electronics or information technology are mainly chosen by males, while other specializations areas such as tourism or fashion are characterized by a clear female prevalence. That is, relevant gender differences may have ended up being ruled out from our analyses because of this issue, reducing the predictive power of previous school choices on gender segregation in higher education.

Having said that, our results suggest that gender segregation in higher education is still at least partly related to the structure of the Italian secondary-school system, and, consequently, to the processes involved in students' choice of secondary school (Romito, 2016). On the other hand, given that a significant 14% gender divide in access to STEM courses persists even after controlling for previous study paths and school performance, our findings indicate that there are other gender-related mechanisms at work in school-to-university transitions. Our data do not allow us to explore these mechanisms in depth, but they may be related to persisting social pressures capable of reinforcing traditional gender identities and trajectories to some degree (DiPrete, Buchmann, 2013; Jacobs, 2005).

In the next paragraph we focus on guidance policies as one possible institutional response to gender segregation in higher education fields of study. Guidance policies and services are increasingly seen as spaces where setting up initiatives aimed at counteracting structural inequalities (Barone et al., 2019; Hooley et al., 2018). More strictly guidance policies can support fairer educational transition countering the weight of ascribed membership (such as gender) on students' decision-making.

#### **4. LIFELONG GUIDANCE IN ITALY AND ELSEWHERE IN EUROPE**

Evidence emerged in the previous section confirm the persistence of gender inequalities in the probability of enrolling in STEM and social sciences and humanities courses. Moreover, we found that these divides are at least partially mediated by high school choices. Echoing Sultana's words (2017), we believe that guidance policies could have an important role in reducing gender inequalities. This could serve both public goals, by establishing a better balance between the supply and demand of skills, and private goals, by helping to ensure that education, training and

employment are more fulfilling experiences for male and female citizens alike. In this section, we question some of the policies recommended in recent years to deal with the issue. Instead of describing all the documents and policies that have addressed the gender gap, we focus here only on the institutional efforts to support guidance policies in Europe and Italy.

The EU has been pushing for LifeLong Guidance (LLG) actions to promote a wider presence of women in schools, including the STEM sector since mid-2000s (Caprile et al. 2015). At EU level, the LLG is a shared political responsibility in all areas of education, employment, and youth policy. The European Lifelong Guidance Policy Network (ELGPN) was established in 2007 with the aim of assisting Member States and the European Commission in developing European cooperation on LLG in both education and employment.

The ELGPN has also had a significant impact on Italy's lifelong guidance and learning policies. It contributed to the delineation of the conceptual framework behind the Italian National Guidelines on Lifelong Guidance (MIUR, 2014), which aim to strengthen the coordination and cooperation between the various orientation practitioners involved in implementing guidance policies and services (ELGPN, 2015).

The *Guidelines* are well designed, and their approach is distinctly innovative, but some problematic elements remain. It is worth mentioning a few critical issues.

i) The *Guidelines* say nothing about how to find the necessary financial resources to start in-service training schemes for all teachers, and to pay for the tutor(s)' work commitment. The *Guidelines* are rich in ideas, but risk remaining no more than a planning document because it is unclear how the proposed actions can be given strength and continuity without the necessary funds. So, we may end up with a policy deprived of its innovative impetus.

ii) No attention is paid to the issue of promoting gender equity – in fact, the word “gender” never appears. It is only very recently that it has become clear that the whole guidance system should be approached from a gender perspective, and this has yet to become a commonly adopted stance (Biemmi, Leonelli, 2017). The *Guidelines* could have been very effective on this issue and could have helped to generate a system through which to address and combat gender inequalities, but it is of little use as a tool for supporting gender equality.

It is not surprising that if we look at guidance practices carried out by schools and universities within the Italian context there is little attention to the gender dimensions. More research is needed in this regard. However, it is fair to acknowledge a general lack of guidance interventions aimed highlighting and contrasting the role of gender stereotypes in the choices of higher education study fields. Among the more than five thousand upper secondary schools' sites available within the Italian territory, some good practices could be found. However, their emergence is related to the sensibility of individual school managers or teachers, to contingent opportunities and the contextual availability of the expertise network that is needed to enact meaningful and high-quality gender-sensible guidance projects. In terms of national policies and guidelines there is no attempt

to provide a systemic response to the issues at stake and a lacking provision of indications, resources, tools, and expertise to enact this type of interventions. Recent research supports our claims (Biasi et al., 2019) and a similar argument can be made concerning the role played by university institutions. If we look at one among the major instruments through which universities monitor and provide policy indications in the field of gender equity, the gender budget, we found the recognition of the persistence of study-field gender segregation but no indications about the role played by university guidance services and about intervention to counterbalance this trend.

## 5. CONCLUDING REMARKS

Gender segregation in higher education fields of today study constitute a relevant area of sociological investigation as well as space of policy intervention. We have reviewed the literature on this subject and analysed the Italian case, using data from ISTAT (Italian Institute of Statistics) to show how gender inequalities have been reconfigured today as an issue of unequal access to specific fields of study.

We found that gender counts in the probability to enrol to university after completing secondary education with female entering higher education significantly more than men. However, we have also found that gender differences disappear when students' type of secondary school programs and school performance are considered.

The picture change when we consider what subjects students choose to study at university. Our study has shown that there is significant gender difference across disciplines. In lines with previous research (Barone, 2011; De Vita, Giancola, 2017), we have found that gender differences are particularly strong for STEM disciplines such as engineering and sciences. Interestingly, previous school performance does not play any significant role in this respect, but we have found a significant although moderate effect played by the type of high school programs in which students obtained their secondary school certificate.

On the one hand, our findings suggest that previous transitions (from middle to high school) play a key role in producing gender differences in higher education choices. Female students mostly join secondary-school programs in the fields of humanities or caring-oriented social sciences, and this seems to guide them, to some extent, towards university courses consistent with their previous studies. This question the structure of the Italian high school system – which is rigidly tracked – and the gender-based mechanisms involved when students and families makes their high school decisions.

On the other hand, we suggest that other factors are at stake in reinforcing gender traditional gender trajectories which can be related to the realm of cultural and social control mechanisms (Jacobs, 2005; DiPrete, Buchmann, 2013). Recent studies have highlighted that gender

differences in university choices are meaningfully dependent on «expressive preferences» (Barone, Assirelli, 2020) suggesting that embodied dispositions and internalized gendered preferences are somehow reiterated and secured during the transition to university. Further research is needed to explore the processes involved in stabilizing traditional gender norms in university decision making. In this respect, we would claim that ethnographic and qualitative research methods can be decisive in showing the intersubjective dimension of higher education choices and the role played by families, schools, teachers, and peer networks.

In order to address gender inequalities in higher education, guidance policies and services are increasingly seen as relevant. We have analysed the main policies available at European and national level in the field of lifelong guidance to discuss if and how issues related to gender inequalities in educational trajectories are addressed. After decades where guidance practices were mostly framed by a neoliberal ideology and their aim narrowed to boost employability and economic growth, recent debates emphasize the need for guidance policies to promote social justice (Sultana, 2017; Bimrose et al., 2019; Hooley et al., 2018; Hooley et al., 2019). In this light, guidance services are seen as spaces where to counteract structural inequalities and as instrument to support fairer learning and working transitions. Our discussion has highlighted that that EU have played a central role in supporting a productive cooperation among EU members to develop guidance policies. However, two issues are worth pointing out. First. The open method of coordination adopted by the EU in this field leaves EU members the freedom to translate policy indications in various ways. This has led to the risk of fragmenting lifelong guidance policies across the EU. Second. Beside very broad references to favouring equity of access to guidance services, the EU framing of lifelong guidance policies has been so far characterized by a strong reference to concepts such as employability and learning flexibility. The Italian guidelines for lifelong guidance issued in 2014 represent a national translation of the European policy discourse in this field which underestimate the role that guidance practices can play to favour equity in education and working transitions.

If the issue of gender segregation in higher education fields of study has to be taken seriously, there is the need to acknowledge the complex mechanisms through which traditional gender norms are secured and reiterated when boys and girls face key transitions. Our findings align with previous research showing that middle-to-high school transition and school-to-university transition constitute key spaces where institutions could set up gender-sensitive intervention. In this respect, we believe that a lifelong guidance approach aimed at expanding boys' and girls' horizons of action, at promoting fairer transition, at deconstructing gender norms can be pivotal in coordinating the often fragmented initiatives enacted so far within and outside the education field.

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