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Women scientists in Italian media in times of Coronavirus: Between low recognition and success as experts

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Women scientists in Italian media in times of coronavirus: Between low recognition and success as experts

ABSTRACT

During the months of lockdown due to the COVID-19 pandemic, Italian media helped provide an unprecedented degree of exposure for women scientists. The essay highlights the results of a quantitative and qualitative study on the portrayal and self-portrayal of Italian women scientists based on the digital editions of eight daily national newspapers and ten talk shows on the main national television channels from February to May 2020. The aim of the study is to show if and how those women scientists were valued as 'experts' or, alternatively, discredited professionally. The picture that emerges is ambivalent: on the one hand, most journalists of both sexes minimize the role of women scientists, and on the other hand, their ability to appear as authoritative in science as their male colleagues makes us optimistic about the role they can hypothetically play in convincing the new generation of Italian women to study STEM subjects.

KEYWORDS

women scientists
women experts
gender stereotypes
gender equality
Italian newspapers
Italian talk shows
scientific journalism
STEM

1 In Italy 52.7% of board-certified doctors are women (see Federazione degli Ordini dei medici 2020). However, women scientists and women engineers make up only 35% of their professions, which is below the European average of 4% (see Eurostat 2018).

2 In the rankings of virus experts given voice by the media compiled by the Osservatorio Mediamonitor of Cedit85 (over 1500 information sources monitored in February/April 2020), there are only two women experts in the top thirteen places: Capua and Gismondo. The same monitoring repeated in October 2020 showed Capua still in the rankings, Gismondo out and a new entry for Viola.

INTRODUCTION: THE MALE GAZE OF JOURNALISM

In Italy, during the months of national lockdown caused by the first wave of coronavirus (from 9 March to 3 May 2020), the media raised the profile of women's protests about the lack of gender equality in the ad hoc government committees created to face the emergency (see Gius 2020). They contested that the technical-scientific committee of the Civil Defence was exclusively composed of men, and the 'phase two' task force was composed of seventeen men and four women (of the 1400 available positions linked to the health emergency, only 20 per cent were given to women; see Openpolis 2020). A group of women from civil society active in the world of work, in different sectors with different skills, who have been dealing with diversity and inclusion projects for some time, at local, national and international level (see #Datecivoco n.d.: 'Who we are') founded the campaign #Datecivoco ('Give us a voice'); among other initiatives, they promoted an online petition launched by 27esima Ora (see '27th hour' n.d.), a blog in the newspaper *Corriere della Sera*, and wrote an appeal letter to Prime Minister Giuseppe Conte published in *Corriere della Sera* on 12 April 2020, which collected more than 50,000 signatures (see #Datecivoco n.d.). In addition, 71 women scientists included in the Top Italian Scientists list started a petition on change.org, which gathered 21,000 signatures, and wrote a letter to the prime minister entitled 'No Country for Women' published in *Corriere della Sera* on 1 May 2020 (see Editoria! staff

2020). In this letter, they pointed out that there was no shortage of high-level women experts in the medical-scientific field¹ and asked that the selection of experts on government committees be based on merit.

The media have given a voice to women's outrage; however, have the same media also produced examples of gender disparity? This article offers a reflection on how *women experts* (i.e., sources of specific expertise invited to explain or comment on an event or question), and in particular women scientists, have been portrayed and self-portrayed in Italian media. From the initial spread of coronavirus, we have seen both men and women scientists move into the media limelight (legacy and digital media) and quickly acquire celebrity status. Early media profiles of women scientists were those of biologists Maria Rosaria Capobianchi, Concetta Castilletti and Francesca Colavita, who were among the first in Europe to isolate the coronavirus. Then came internationally acclaimed virologist Ilaria Capua, virologist Maria Rita Gismondo and, later, immunologist Antonella Viola.²

This article highlights the results of a quantitative and qualitative study of how Italian women scientists have been portrayed and self-portrayed in eight daily national newspapers and in ten talk shows broadcast on the three channels of the national public broadcasting company, Rai, and on two private television networks, Mediaset and La7, from February to May 2020. The research has the dual aim of highlighting, from a quantitative point of view, the actual visibility of women scientists compared to that of male scientists, and, from a qualitative point of view, the appreciation- or lack thereof- of their professional role.

I have structured my analysis on a number of national and international scholars who have written on 'women and journalism', including Azzalini (2015), Azzalini and Padovani (2015, 2020), Buonarmino (2005, 2015a, 2015b), Ross and Carter (2011), Ross and Padovani (2017) and Steiner (2012). A key issue in those works cited and in my analysis is understanding why the number of women as 'news subjects and sources' (i.e., those spoken about or

to) has not increased in light of an almost equity of women journalists versus men journalists: 41.6 per cent of journalists enrolled in the Ordine dei giornalisti, an Italian association of journalists, are women (see Istituto Nazionale di Previdenza dei Giornalisti Italiani [National Insurance Institute for Italian Journalists] 2020).³

Although women as 'news subjects and sources' have been increasing in number worldwide, from 17% in 1995 to 25% in 2020 in legacy media (see Global Media Monitoring Project 2020), they are still dramatically underrepresented compared to men. Of these total numbers of subjects and stories, women experts account for 24%: specifically, politicians make up 18%, managers/economic experts 20%, doctors/health specialists 29% and technical-scientific experts 20%. In Italy, women as 'news subjects and sources' in legacy media account for 24% (up from 7% in 1995), and women experts for 12%, of which managers/economic experts made up 17%, politicians 22%, doctors/health specialists 7% and technical-scientific experts 14% (see Azzalini and Padovani 2020). This is an underrepresentation compared to the actual number of women in such professional fields, which could be judged as a 'symbolic annihilation' of women's importance in society (Tuchman 1978).

According to these findings, during the first wave of the COVID-19 pandemic, the 'voice' of women experts in the technical-scientific field in particular increased: from 10% in 2015 to 20% in 2020 globally (see GMMP 2015, 2020); from 0% to 14% in 2020 in Italy (see Azzalini and Padovani 2015, 2020), but it was still much less frequent than the response of men experts. A study that looked at women's representation in 146,867 articles on coronavirus from the online sites of the main daily newspapers in the United Kingdom, Australia and the United States between March and July 2020 showed that just 5% of STEM (science, technology, engineering, mathematics) experts mentioned were women. Moreover, only a third of quoted statements about the pandemic were from women: specifically, 37% appeared in health-related coverage and 24% in science articles (see Jones 2020).

Another group of studies taken into consideration during my analysis, which focused on 'women scientists and media', underscored not only their underrepresentation, but also the emphasis on how they look, their sexuality and their private lives (see Ampollini 2017; Chimba and Kitzinger 2009; Kitzinger et al. 2008; La Follette 2012; Mitchell and McKinnon 2019; Steinke 2013). For example, one study on the portrayal of women scientists in twelve national UK newspapers (Chimba and Kitzinger 2009) highlights the fact that both male and female journalists mention the women's age, parental status or relationship status, and pay attention to appearance (describing their clothing, physique and/or hairstyle) and their sexual attractiveness much more frequently than they do for men scientists. In addition, the women scientists' criticism of how they are portrayed in the media came out in their interviews: many of them perceive a discrepancy between how they are portrayed and the image they would like to project. They themselves are aware that the habit of framing the scientists specifically as 'female scientists' undermines their credibility and authority on a professional level: 'the female scientists are the ones consistently shown posing as the "human face" of science while male scientists embody "objective" science and the face of authority and expertise' (Chimba 2009: 10, original emphasis). A more recent study (Mitchell and McKinnon 2019), based on press coverage of women scientists in the *New York Times* 'Profiles and Science' column between 2011 and 2018,⁴ identifies progress in the media portrayal of women scientists compared to previous studies

³ worldwide, the percentage of female reporters in legacy media is 40 per cent see Global Media Monitoring Project 2020, the largest and longest running research on gender in the world's news media, organized every five years since 1995 in more than 100 countries

⁴ A total of 28 'profiles' have been published since the column began in 2011: eighteen male and twelve female scientists; two of the 28 articles profiled couples

Such as attributing character traits traditionally considered to be male – eg, individual drive and brilliance – and female – eg, collaboration, communication and teamwork – to both women and men scientists

6 From each talk show's online archive, the episodes were selected from the start of February for weekly talk shows, in the weeks from 16 to 22 March 2020 and 13 to 19 April 2020 for daily talk shows

mentioned above: increased visibility, a reduction in obsolete gender stereotypes⁵ and less attention paid to physical appearance and sexuality. However, the tendency of both male and female journalists, who in most cases deal with the profiles of scientists of their same sex, to describe women scientists as the 'human face' of science remains: work-life balance in particular is presented as a largely female problem.

RESEARCH METHODOLOGY

Firstly, I have analysed 30 articles published in the online free version of the eight main daily national newspapers – *Corriere della Sera*, *la Repubblica*, *Il Sole 24 Ore*, *La Stampa*, *Il Messaggero*, *Il Giornale*, *L'Avvenire* and *Il Fatto Quotidiano*. These articles focus on two case studies related to important scientific discoveries made by Italian women scientists. The first case, which appeared for the first time on 2 February 2020, discusses the women scientists who isolated the virus at the National Institute of Infectious Diseases Lazzaro Spallanzani in Rome (twenty articles); the second case, which appeared for the first time on 27 February 2020, deals with the predominantly female team who isolated the Italian strain of the virus at the Sacco Hospital in Milan (ten articles). The articles were identified via web search using the following keywords: newspaper name, coronavirus, isolated, Spallanzani, Italian strain of the coronavirus, Sacco Hospital. Both national and local editions of the newspapers were taken into consideration. The choice to refer to the online newspapers was made based on the growing trend of consulting the online version of newspapers: especially during lockdown, Italian readers preferred the online version (32.3%) over the print versions (10%) (see ISTAT [The Italian National Institute of Statistics] 2020). For the quantitative analysis, I counted the number of male and female journalists, the occurrences of the various professional titles which they used to introduce the women scientists and the numbers of articles who gave space to women scientists' voices'. For the qualitative analysis, I have examined the representation of the women scientists based on the following seven parameters: (1) the columnist's gender; (2) headlines; (3) space dedicated to what they said during interview (their 'voice'); (4) space dedicated to the scientists' educational and professional background, their scientific discoveries, their physical appearance, and their private lives; (5) views on their professional ability and the work carried out; (6) use of gender-specific language; (7) accepted or challenged gender stereotypes. In order to analyse the self-portrayal of women scientists which emerges from the interview excerpts, the following were taken into consideration: (1) authority; (2) topics and values mentioned; (3) confirmed or challenged gender stereotypes.

In addition to these articles, I have conducted a quantitative and qualitative analysis of ten primetime talk shows broadcast on the Rai, Mediaset and La7 television networks: *Porta a Porta* (Rai 1), *Che tempo che fa* (Rai 2), *Cartabianca* (Rai 3), *Stasera Italia* (Rete 4), *Quarta Repubblica* (Rete 4), *Di Martedì* (La7), *Otto e mezzo* (La7), *Più è Pulita* (La7), *L'aria che tira* (La7, broadcast in the morning), *Non è l'Arena* (La7). Only *Cartabianca*, *Stasera Italia*, *Otto e mezzo* and *L'aria che tira* have women presenters. The talk shows were selected from those with the highest viewing figures out of the ones which focused on the health emergency. For the quantitative analysis, I have watched a total of 120 episodes dedicated to the coronavirus emergency (twelve of each show) between February and May 2020. The number of men and women experts who spoke about the pandemic (politicians, journalists, doctors, scientists,

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commissioners for the COVID-19 emergency) was omitted for each episode, and among these, respectively, the number of men and women scientists.

Thereafter, I conducted a qualitative analysis of the 30 episodes from the above-mentioned shows which featured women scientists⁷ and of a special episode of *Otto e mezzo* from 27 June 2020, which focused on gender inequality. Within these 31 shows, I examined the portrayal and self-portrayal of the women scientists. For the portrayal, I have adopted the same parameters used to analyse the articles with the addition of the 'regular guest' category. For the self-portrayal, I have employed the following six parameters: (1) communication style; (2) authority; (3) topics and values mentioned; (4) relationship with the presenter; (5) rapport with male and female colleagues; (6) confirmed or challenged gender stereotypes.

WOMEN SCIENTISTS' DISCOVERIES AS SEEN BY THE PRESS

The team who isolated the coronavirus at the Spallanzani Institute in Rome was made up of Maria Rosaria Capobianchi, director of the Virology Laboratory; Concetta Castilletti, in charge of the Emerging Virus Unit; and researcher Francesca Colavita; the team also included two men, Fabrizio Carletti, expert in designing new molecular tests, and Antonino Di Caro, who managed the international healthcare links. The content analysis of the twenty articles selected about this case reveals that the novelty or uniqueness of a discovery made by a team of *women* scientists is a piece of news in itself. Common in the articles and headlines were descriptors such as: 'The team of women' (headline), 'an all-woman team' (subheadline) and 'three women, three Italian female researchers' (article).⁹ As these scientists were unknown to the general audience, the attention in headlines was mainly on 'who' they were rather than 'what' they discovered: for example, 'Research Angels: Meet the two Italian women scientists who were the first to isolate coronavirus', 'Coronavirus, find out who isolated it: All southern women, even a young temp among them'.

Women scientists are diminished by the way they are introduced: their professional title was left out in the subheadlines (three articles); only their first name was used, even in headlines (three articles); they are described through the 'smile', the 'shy nature' or the 'emotion' linked to the discovery (five articles); and they are generally identified as 'female researchers' (30 occurrences) or 'female doctors' (sixteen), or sometimes as 'female scientists' (five) and 'female virologists' (four), but rarely are they defined with the correct status of 'female biologists' (one), as prescribed by the Italian Association of Biologists. Both female and male journalists described the women scientists with the same bias (50% F – 50% M used the more specific professional titles: scientists, virologists, biologists).

The portrayal of the scientists as 'female scientists' (Chimba and Kitzinger 2009; Mitchell and McKinnon 2019) includes their age, information on their private lives and even giving credit to their husbands who had to put up with their scientist wives being away for work (three articles written by women and one by a man – probably because the narrative of the 'human face' of science was mainly assigned to female journalists). For example, Margherita De Bac of *Corriere della Sera* describes Capobianchi as follows:

Maria Rosaria Capobianchi, 67 years old [...] decided to move to Rome to realize her dream of being a researcher and, above all, to follow Felice

⁷ *Porta a Porta* 11 February 2020, 25 February 2020; *cartabianca* 26 February 2020, 3 March 2020, *Stasera Italia* 22 March 2020, 01 March 2020, 25 February 2020, 17 March 2020, 24 March 2020, 31 March 2020, 7 April 2020, 14 April 2020, 28 April 2020, 5 May 2020, 12 May 2020, 19 May 2020, *Otto e mezzo* 18 March 2020, 20 March 2020, 16 April 2020, 18 April 2020; *Piazza Pulita* 5 March 2020, 19 March 2020, 26 March 2020, 16 April 2020, 30 April 2020. 7 May 2020, *L'aria che tira* 25 February 2020, 13 March 2020; *Non è l'Arena* 2 February 2020, 8 March 2020

seven written by female journalists, eight by male journalists, and five by the editorial staff

⁹ All translations from the original Italian are mine

10 In the 1990s in Italy, women philosophers who supported the 'sexual difference theory', like Lursa Muraro and Adriana Cavarero, introduced a critical reflection on a 'neutral male' language which overshadows the female gender, like the linguistic custom of using the masculine term to refer to professions or offices held by women.

Cerreto, the man she married in the 1980s and with whom she has two children, to the capital. She says that it is thanks to him that she has reached this level.

(De Bac 2020a)

and in the article entitled 'Coronavirus, Concetta between laboratory and basketball: "Having a husband who changed nappies was priceless"', De Bac (2020b) once again dedicates plenty of space to areas which go beyond scientific research. Conversely, male scientists were always described with the correct professional titles and without any reference to their private lives. In the margins, we can see that the self-portrayal of the women scientists which comes out of these articles challenges gender stereotypes: that of full-time women workers with a family set-up based on shared care.

To offset these descriptions, five articles in particular (two written by female journalists, three by male journalists) have enhanced the women scientists' professional role, describing the steps which led them to the discovery, and using their 'voice'. Finally, passion and dedication for the women biologists' work is shown in a portrayal (and self-portrayal) focused exclusively on their scientific mission. Furthermore, it is interesting to note that the majority of the articles (eighteen out of twenty) introduced the female version of the scientists' professional titles showing the journalists' gradual acceptance of a *gendered language* (see Sabatini 1987; Robustelli 2014).¹⁰ Other two articles highlighted the professional merits of the 'temp' researcher Colavita, and disputed the Italian government's lack of support for young talent.

Compared with the first case study, the second one, on the team who isolated the Italian strain of the virus, received half as much coverage as the first case (four written by female journalists, one by male journalists, five by the editorial staff). The team at the Sacco Hospital in Milan was coordinated by Professor Oaudia Balotta and made up of the female researchers Alessia Loi, Armalisa Bergna and Arianna Gabrieli, and the male researcher Maciej Tarkowski and the male professor Gianguglielmo Zehender. Three headlines highlighted the fact that, apart from being women, these are researchers with temporary contracts: 'Coronavirus, the three "temp" women researchers at the Sacco Hospital who isolated the Italian strain', 'The Sacco team who isolated the Italian strain of coronavirus: meet the three "temp" women researchers', 'Coronavirus, the Italian strain isolated: the success of the temp team at Milan's Sacco Hospital'.

This structure satisfies the classic criteria for newsworthiness (Galtung and Ruge 1965; Gans 1979) and identifies a social problem (Hilgartner and Bosk 1988), the brain drain of Italian academics, with the effect, however, of overshadowing the scientific discovery. One female journalist alludes controversially to the lack of professional valorization of female scientists, implying that being women aggravates the problem: 'It's curious that all the scientific discoveries that Italy should be proud of have been made by women, and the latest discoveries have been made by women "temps"' (Bazzi 2020). Professor Balotta, however, is introduced above all as 'female professor' (ten occurrences), 'female infectious disease specialist' (four) and 'female immunologist' (one). All articles named the women scientists but only four gave voice to them, whilst six especially gave voice to male infectious disease specialist Massimo Galli, director of the Biomedical Science Institute at Sacco Hospital.

In conclusion, on the one hand, the women scientists received quite good exposure and in thirteen articles out of 30 they were given 'voice' (in four

articles with a focus on private lives, in nine with a focus on the scientific discoveries); on the other hand, we can detect a certain reticence on the part of both male and female journalists to value their professional role, due to deep-seated gender stereotypes. The image of the *woman scientist* can actually be seen as a *threat* to the traditional division of jobs between men and women (summoning up 'tolerant' husbands assumes a breach of *gender order*; see Connell 2009); or, as Minister of Equal Opportunities and Family Elena Bonetti highlights (Liguori 2020), women scientists can be a *source of inspiration* for young female students who fail to choose the STEM subjects because of a strongly biased belief that the scientific-technologic fields are more suited to males (see Fox Keller 1985). In Italy, few young women enrol in STEM degree courses – only 37 per cent according to a 2019 study by Osservatorio Talents Venture.

PORTRAYAL AND SELF-PORTRAYAL OF WOMEN SCIENTISTS IN TALK SHOWS

From the quantitative analysis of the ten talk shows (twelve episodes each) taken into consideration (Table 1), the women experts made up only a fifth of the total: 20% F–80% M. The women scientists fared better (31% F–69% M), bearing in mind, however, that they represent only 16% of the women experts (and the men scientists only 9% of the men experts). The majority of 'studio guests' were politicians, followed by the doctors and/or commissioners who managed the emergency, and by journalists, both male and female.

The talk shows which discussed the health emergency in 'male terms' (i.e., with no, or minimal female presence) prevailed: six out of ten. These are programmes on the Rai and Rete4 networks, and *I;aria che tira* on La7, and in the majority of episodes taken into consideration (49 out of 72, or 68%), there was *none, or just one, woman expert* (taking all the professional categories into consideration). The talk shows which instead dedicated more airtime to women experts, all on La7, are *DiMartedì* (33% F, 67% M), *Otto e mezzo* (31% F, 69% M), *Non è l'Arena* (30% F, 70% M) and *Piazza Pulita* (19% F, 81% M).

Table 1: Women and men experts and scientists present on ten talk shows (twelve episodes each), from February to May 2020. Percentages rounded up.

Talk show	Channel	Women experts	Men experts	Women scientists	Men scientists
<i>Porta a Porta</i>	Rai 1	13% (11)	87% (75)	13% (2)	87% (13)
<i>Che tempo che fa</i>	Rai 2	9% (8)	91% (80)		100% (19)
<i>Cartabianca</i>	Rai 3	13% (18)	87% (120)	12% (2)	88% (14)
<i>Stasera Italia</i>	Rete 4	12% (9)	88% (68)	14% (1)	86% (6)
<i>Quarta Repubblica</i>	Rete 4	10% (19)	90% (163)		100% (4)
<i>DiMartedì</i>	La7	33% (100)	67% (203)	66% (29)	34% (15)
<i>Otto e mezzo</i>	La7	31% (14)	69% (31)	67% (4)	33% (2)
<i>Piazza Pulita</i>	La7	19% (34)	81% (146)	43% (6)	57% (10)
<i>I;aria che tira</i>	La7	13% (20)	87% (138)	13% (2)	87% (13)
<i>Non è l'Arena</i>	La7	30% (60)	70% (139)	18% (2)	82% (9)
Total		20% (293)	80% (1163)	31% (48)	69% (105)

Table 2: The occurrences of women scientists' appearances in the ten talk shows.

Women scientists	n
virologist Ilaria Capua	11
biologist Barbara Gallavotti	9
virologist Maria Rita Gismondo	8
epidemiologist Vittoria Colizza	5
hepatologist Maurizia Bnmetto	5
immunologist Antonella Viola	4
biologist Maria Rosaria Capobianchi	3
virologist Elisabetta Groppelli	2
physicist Fabiola Gianotti	1

From these women experts, ample airtime is dedicated to the women scientists by *DiMartedì* (29% of the women experts; 66% F- 34% M), *Otto e mezzo* (28%; 67% F-33% M) and *Pi=a Pulita* (18%; 43% F- 57% M); in *DiMartedì* and *Otto e mezzo*, the women scientists outnumbered the men. Taking the total number of women scientists into consideration, *DiMartedì* had the most as guests (29). Virologist Ilaria Capua and biologist Barbara Gallavotti are regular guests on *DiMartedì*; epidemiologist Vittoria Colizza appears regularly on *Otto e mezzo*; virologist Elisabetta Groppelli often stars on *Pi=a Pulita*. It is noteworthy that the majority of the women scientists chosen to guide the audience through the facts live and work abroad: Capua nms the One Health Center of Excellence at the University of Florida, Colizza heads the French National Institute for Health and Medical Research in Paris and Groppelli teaches Global Health at St. George's University of London, a point which fuels the criticism of the Italian government's lack of action in tackling the brain drain.

Taking the portrayal of the women scientists into consideration (they appeared in 30 episodes, a quarter of the total), in only a few cases do we find their professional status lowered: they are not mentioned at the start of the programme among the guests and/or are included only later in the show (*Pi=a Pulita* 19 March 2020, 26 March 2020; *Cartabianca* 26 February 2020); they are given less time to speak compared to their male counterparts (*Porta a Porta* 12 February 2020, 25 February 2020). On *Non è L; Arena* (2 February 2020), presenter Massimo Giletti, when speaking to Capobianchi, seems more interested in commenting on the 'novelty' of role reversal to which she refers symbolically, rather than in the scientific discovery itself: 'Out of curiosity, are there some men in your group or not? [...]. You seem like one of those women who forges ahead and holds the men back [...]. Veneria they say about you at home?' (Giletti 2020). Once again, as we have seen, the gendered nature of the articles, we see questions about the women's role in the workplace: 'make women who work – and therefore 'neglect' their families – feel guilty. Capobianchi expertly managed to sidestep this type of question, by bringing the conversation backup to a professional level and by using irony: 'My family only see me in postcards' (Capobianchi 2020), an Italian idiom which means 'they never get to see me'.

In all the other episodes, other ways of praising the women were used – ways often absent in the press: the women scientists were introduced

using the correct professional title; they were referred to as precious sources of information for the audience; they were praised for their scientific accomplishments; the questions they were asked related mainly to their expertise. In addition, they were given many opportunities to make themselves heard, especially on *DiMartedì* and *Otto e mezzo*.

From the analysis of the women scientists' self-portrayal, in the following examples (as in the case already mentioned about Capobianchi), we see that most of them exude self-confidence, authority and the ability to be appreciated: in some cases, challenging male chauvinism and gender stereotypes, at times together with presenters of both sexes. For example, on numerous occasions in her talk show appearances, Gismondo has staunchly defended her opinion, posted on Facebook on 23 February 2020, where she minimized the extent of the spread of coronavirus, when attacked by Burioni on Twitter, after he disparagingly called her the 'Lady from the Sacco'; on *L'aria che tira* (25 February 2020) when presenter Myrta Merlino showed solidarity, saying 'she was justifiably offended', Gismondo answered with irony: 'I am honoured because Luigi Sacco was a famous immunologist' (Gismondo 2020). The clash of opinions between the male and the female scientists on the selected Italian talk shows reflects the classic power hierarchy between men and women.¹¹

Capua manages her self-portrayal with authority, often imposing herself on presenter Giovanni Floris in order to make her ideas known to the audience:

First of all, I need to finish telling you about women, because you don't want to let me talk about women [said ironically]. I would like to invite whoever decides to reflect on this quiet revolution: maybe when we repopulate, we can unleash our square roses.

(Capua 2020)

Floris explains the metaphor Capua uses to challenge gender stereotypes: 'The rose is the symbol of women, the square the symbol of rationality, generally associated with men, however it seems that the professor is claiming it for herself' (Floris 2020). Another aspect of symbolic relevance to breaking down such prejudice is the alliance of women scientists: a project which involves researchers from all over the world in the fight against COVID-19, developed by Capua, as director of One Health Center of Excellence at the University of Florida, and Fabiola Gianetti, director general of CERN (European Organization for Nuclear Research) in Geneva (*DiMartedì* 28 April 2020). Making her return to the Italian media spotlight, Capua seems to have bounced back from the widespread negative image of the 'unscrupulous scientist' in 2014, when she was wrongly accused of illegal virus trafficking (Ampollini 2017), increasingly gaining more credibility.

In the special episode of *Otto e mezzo* (27 June 2020), the debate about the lack of female scientists' professional appreciation and male chauvinism—two topics that seem to go hand in hand—is dealt with in much more detail than the 'temp'story reported by the press. Presenter Lilli Gruber highlights the fact that Vittoria Colizza at the age of 38 had already managed to reach a top position in the French healthcare system, maintaining that this would have been unthinkable in Italy (see annual publication of the *Annuario Scienza, Tecnologia e Società*). In addition, Gruber asks if she is surprised that the emergency management committees are made up mainly of men. Colizza (2020) describes a co-optation method in her answer ('favouritism: they hire who they already know') which, as it does not take merit into consideration,

Male scientists in particular attack male colleagues and more so female colleagues. Another example on 27 November 2020 on *L'aria che tira*, infectious disease specialist Matteo Bassetti attacked Capua 'a vet is not a vaccine expert'.

12 As a final example, a headline written on Twitter 'Mum and swimmer Meet Andrea Ghez, Nobel Prize winner for Physics' (@IHuffPostItalia, 6 October 2020)

excludes women from the outset. Gruber highlights how it would instead be possible to escape the automation of the productive journalistic routine which leads to the guests being mostly male experts: 'In order to find a female scientist, we went looking for one and we found one in Paris' (Gruber 2020).

The quantitative and qualitative analysis of the talk shows reveals an inconclusive picture: a large gender gap regarding the number of women experts – women scientists included – is evident; on the other hand, the women scientists' portrayal, and above all their self-portrayal, shows their highlighted value from a professional viewpoint.

CONCLUSION: THINGS ARE CHANGING

The picture which emerges from the research on the portrayal and self-portrayal of Italian women scientists in Italian media is ambivalent. From a quantitative and symbolic point of view (Tuchman 1978), Italy is not actually a country for women: in the data, the gender gap between experts is wider still. In the ten most-watched talk shows on the Rai, Mediaset and La7 networks, women experts make up only a fifth of the total (20%), which is in line with previous research results (see Gruppo di lavoro Pari Opportunità del Consiglio Nazionale dell'Ordine dei Giornalisti 2015; Azzolini and Padovani 2015, 2020), whereas women scientists (who make up 16% of the women experts) constitute almost a third of the total for their professional category (31%), closer to the actual number of women scientists in Italy (35% F– 65% M; Eurostat 2018). In the press, the generic professional title is used more often by both female and male journalists when introducing women scientists, rather than the specific and correct title (in only 20% of cases), and they are not given much say regarding the scientific discovery (nine articles out of 30).

From a qualitative viewpoint, especially in the press – as we have already seen many times in studies on 'women scientists and media' – ways of portraying women scientists which tend to reduce their professional merit are highlighted, emphasizing instead their private lives and other characteristics connected to their looks and personality. Another ambivalent aspect is the journalistic 'astonishment' at the fact that it was *women* who made important scientific discoveries: anything out of the ordinary makes the headlines (Galtung and Ruge 1965; Gans 1979) and, in this case, anything which threatens *gender order* (Connell 2009). The resistance in accepting the women scientists' professional ability manifests itself in recalling the traditional *wife* and *mother* roles, to 'anchor' (Moscovici 1984) the 'exceptional' nature of the news to what is rooted in common sense and/or in highlighting disruption of patriarchal order: 'How do you balance your private life with a mission like this?' (De Bac 2020b); 'What do they say about you at home?' (Giletti 2020).¹² Conversely, the example given by the women scientists with their self-portrayal is positive: in both the articles which focus on the scientific discovery and in those which concentrate more on their private lives, the passion and dedication for their work shines through.

The situation improved in the talk shows, but only in three out of the ten, all on La7: *DiMartedì*, *Otto e mezzo*, *Piazza Pulita*, where the women scientists were chosen to lead and drive public opinion: the stress was on their abilities, and they were given a lot of opportunities to speak. The appreciation of the women scientists therefore depends on the presenter's willingness to guarantee gender equality among the 'studio guests' and to a large extent on the women's ability to portray themselves authoritatively, fighting prejudice and

gender stereotypes (see Fox Keller 1985; Pezzuoli and Seveso 2016). Regarding the last point, the women scientists' ability to bring the conversation back to a professional level and their use of irony were among the strategies identified.

In conclusion, even though it seems that there is still a long way to go before we can expect to see a more balanced media portrayal of men and women, what comes out of the research is that we are starting to note some changes with regard to the 'women and journalism' topic and field of study. First is the fact that it is possible to break the vicious cycle where more men than women experts are consulted. We are now starting to find women experts in every field of knowledge and both male and female talk show presenters have proven this by actively looking for women scientists. The research actually confirms that the appreciation – or lack thereof – of the women scientists does not depend on the gender of whoever is providing the information, but rather on an awareness of gendered power relations, which even male journalists can learn. In order to change an informative system which is based largely on the *male gaze*, we need to not only increase the number of women journalists in top, decision-making positions,¹⁴ but also promote a gender-inclusive culture: in order to provide quality information which represents the whole population and which guarantees pluralism of information, male and female journalists should give *visibility*, *value* and *voice* to women (see Buonanno 2005; Capecchi 2014, 2018; Ross and Padovani 2017; Steiner 2012).

A second point, linked to the first, relates to the symbolic importance of women scientists emerging as a professional category in the legacy (and digital) media spotlight in order to achieve gender equality in society. Many of them have become reference points for the audience, on par with their male counterparts: their success as experts will hopefully play a part in breaking down negative prejudice regarding the *woman--scientist* pairing and inspire the next generation of young women's educational and professional choices. Likewise, the long-term effects of the controversy against the poor appreciation of women scientists' professional merits in Italy – clear across all media taken into consideration – should not be underestimated: not only female and male journalists, but also the #Datecivoce movement, and the women scientists themselves, like the 71 women scientists who protested in April 2020, have started to 'speak up'. The protest seems to be ongoing: on 11 February 2021, another group, Top Italian Women Scientists, wrote a letter to the new prime minister, Mario Draghi, in order to ask for recognition of women scientists who stand out, and to promote an equal opportunity culture in scientific and technological fields (see Adnkronos 2021).

A third point is related to the promotion of a gender-inclusive culture. In Italy, the 'aware communities' of female (and male) journalists, such as the 27esima Ora of *Corriere della Sera* (mentioned above) and GIULIA (Giornaliste Unite Libere Autonome) (United Free Autonomous Journalists), have, over the past few years, raised awareness of the need to challenge gender stereotypes when giving information. This challenge starts with using language which promotes professions occupied by women (Robustelli 2014), a change which is underway and has already been documented by this research.

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