

Hacking Gender and Technology in Journalism

Sara De Vuyst

First published 2020

ISBN: 978-0-367-20528-7 (hbk)

ISBN: 978-0-429-26202-9 (ebk)

2 Is journalism gender e-equal?

(CC BY-NC-ND 4.0)



ROUTLEDGE

Routledge

Taylor & Francis Group

LONDON AND NEW YORK

2 Is journalism gender e-equal?

This chapter explores the gender aspects of technological innovation in journalism. More specifically, it will focus on how the value of digital skills is constructed in journalism and how this relates to gender issues. What happens, for example, when news companies hire more people with a background in ICT, a field which is notorious for its gender imbalance? And is there, besides a horizontal and vertical gender divide in positions and news beats, also a new digital gender divide emerging in newsrooms? From the introduction, we know that numbers never tell the whole story. In order to gain a complete picture of gender dimensions, I not only focus on quantitative aspects but also ask more complex questions about how gender interacts with technology in journalism. The answers to these questions go further than merely describing gender divides by offering insights into underlying mechanisms supporting them.

The research reported here draws on qualitative interviews with a wide ranging sample of 37 journalism professionals between 23 and 64 years old and including 25 women and 12 men. The majority held the position of journalist or editor, while some were in middle and senior management. They worked for newspapers, magazines, online platforms, broadcasters, and international journalists' organisations such as ICIJ and Journalismfund.eu. Their digital competence levels ranged from basic spreadsheet skills to more advanced programming skills. Interviews revealed insights into how participants give meaning to technological changes in their profession and construct their experiences, attitudes, and perceptions toward gender and technology. This method is widely used in feminist research because it gives marginalised groups the chance to share their perspectives and stories in their own words (DeVault & Gross, 2006).

The results are interpreted through the lens of Bourdieu's field theory and its appropriations by feminist researchers. There is a focus on ICT skills, knowledge and competences in journalism, which are defined as digital capital; on the value, evaluation and accumulation of this kind of capital; the

intersection with gender capital; and the opportunities of male and female journalists in the profession. Parts of this chapter are based on insights that were previously published in *Digital Journalism* (De Vuyst & Raeymaeckers, 2019, volume 7, issue 5).

The value of digital capital in journalism

The interviews began with a discussion of how news people define digital skills and evaluate the importance of having these skills in their profession. In general, interviewees believed that each journalist ought to have a basic level of digital expertise to be able to operate within the current media landscape. Experience with computers, social media, photo and video editing and data visualisation were considered essential for future journalists. Journalists who displayed a primary level of digital skills, as well as those with a more advanced level of skill attainment, agreed on this point. The audience played a central role in their motivations for gathering digital competences. Digital skills were considered necessary to unlock possibilities for multi-platform storytelling and to enable journalists to attract a broader range of news users by using better techniques. In other words, for most interviewees, digital tools represent a means to an end, which is choosing the best platform for telling a specific story to a particular audience. This focus is not so surprising considering that digital media made the preferences of audiences more quantified and visible for journalists through metrics, web analytics and feedback on social media.

Although there was a consensus among the interviewees on the importance of technology in their profession, not all digital skills were assessed equally. The value of digital capital was discursively constructed along two dimensions: namely, volume and composition. Regarding the first dimension, value expands in line with the amount of a journalist's digital capital. There was a belief that the more digital expertise journalists gather, the more they will be able to translate their skills into recruitment and career opportunities. On the second dimension, the value depends on how the digital capital of a journalist is internally composed as well as on its external relations with other types of accumulated capital. Internally, skills that are associated with the technology field – such as programming, coding and development – were deemed more advanced and valued higher than social media skills. Knowledge of programming languages, such as JavaScript, HTML and Python, was considered a valuable resource. A 23-year-old male magazine web editor categorised these competencies as 'hard skills'. Those advanced digital skills are associated with high levels of symbolic capital.

Contrary to basic digital skills, there were different viewpoints on who should and should not have more advanced skills. Several interviewees

believed every journalist would benefit from learning to code, whereas others mentioned it depends on the type of work and the position and could be a task that is outsourced to technologists. However, despite these differences, participants agreed that by obtaining these skills, journalists can increase their status in the profession and distinguish themselves from colleagues. This went hand-in-hand with the impression that news companies are actively searching for journalists with advanced levels of digital capital. It was interesting to note that a discourse of scarcity was often part of those discussions. The pool of journalists who have these skills was considered still very limited. And as demand exceeds supply, digital expertise is perceived as an important asset for recruitment and career development. A 36-year-old male freelance journalist summarised the situation in this way:

If you have these digital skills, it is quite easy to get a job in a job market that is very depressed at the moment. There are a lot of lay-offs, and some media are closing. Even in this context, you could still get a job quite easily. . . . I get calls from different newsrooms, sometimes twice a month, to ask whether I know someone that has these skills.

Not only how digital capital is internally composed but also its position in the full package of a journalists' capital is taken into account. Many interviewees noted that traditional journalistic skills such as writing, newsgathering, and interview skills are still fundamental, and saw digital skills as an essential add-on to the toolbox of journalists. As such, those who can combine high amounts of advanced digital capital with high quantities of traditional forms of cultural capital in journalism were placed at the top of the ranking. Since the perception is that this mix of skills seldom exists in a single person, journalism professionals who can combine both were labelled as 'unicorns'. The mythical aura surrounding unicorns emphasises the rarity and the extraordinary value of digital skills in journalism.

The word 'unicorn' also frequently appears at journalism conferences, in resources aimed at journalists, and academic publications. In their paper titled 'Finding the Data Unicorn', Alfred Hermida and Mary Lynn Young (2017), interviewed 17 data journalists in Canada and several of them made a connection between the collaborative nature of data journalism and the small number of journalists working with data. Meeting another data journalist was even described as "finding another unicorn in the middle of woods" (p. 9). A report written by Mark Stencel and Kim Perry for the Tow-Knight Center for Entrepreneurial Journalism (2016) based on a survey and interviews with 39 decision-makers at 31 news companies in the United States continued the saga and concluded that the news industry is looking

for ‘heroes’ or ‘journalists with superpowers’. The superpower being the ability to combine basic reporting, writing and editing skills with more specialised coding, audience development, visual storytelling, digital design and social media distribution skills. The superhero metaphor can be seen as another example of how digital capital is valued through a discourse of exceptionality. As we will see in the next paragraphs, this also tells something about who will meet the requirements of these positions and who will not. Just think about who usually plays the role of the superhero in movies or books.

The intersection of gender and digital capital

Finding digital capital

In predictions about journalism jobs in the future and job advertisements, terms such as code, data and algorithms increasingly feature (Future Today Institute, 2019; Royal, 2012; Wenger & Owens, 2012). New labels such as ‘coder-journalist’, ‘hacker-journalist’, ‘programmer-journalist’ and ‘data journalist’ have been created to describe these job profiles (Betancourt, 2009; Boyer, 2012; Gynnild, 2014; Usher, 2016). And just like there are different opinions among interviewees about who should have technical skills, subtle differences in these job titles carry different assumptions about the kind of know-how that is valued first and who should bring it to the newsroom. Is it a programmer who ventured into journalism and developed traditional journalism skills, a journalist who learned coding skills, or a team in which journalists work together with technologists?

Although classifying different forms of data-oriented news work can be helpful for researchers who want to compare them on several axes, in reality, the boundaries of these practices tend to be vague, and different labels are used interchangeably (Coddington, 2015). Nevertheless, what connects all the categorisations is that they signify an increased interaction and blurring of the boundaries between journalism and the technology field (Mair & Keeble, 2014). It is in this convergence of journalism and technology that gender comes into play.

Digital skills in journalism are often sought outside the media industry (Hermida & Young, 2017; Lewis & Usher, 2014). News companies have attracted people with a background in the ICT education and professions to work in technical positions such as designers, developers or programmers (Parasie & Dagiral, 2013). The ICT field is notorious for its gender imbalance, both in the professions and education. So quantitatively speaking, when more people are hired from this field, the underrepresentation of women in ICT can be replicated in journalism, where the growth in the

percentage of women is fragile and stalling in recent years. During interviews, both male and female journalists noted an absence of women in technical positions in journalism, especially in programming, coding and development. Most female interviewees who work in those positions were the only women in the team. Even though journalists were not always aware of this imbalance on the job, the invisibility of women became very obvious during conferences or seminars on innovation-related themes, where women are not only underrepresented among the participants but also among the speakers.

When asked about the reasons for this underrepresentation, interviewees commonly situated this gender issue outside of journalism and saw it as a logical result of the absence of women in the technology field. For several managers, this way of thinking was based on their personal experience of difficulties in finding female applicants for tech jobs. Three women who were leading data teams could not find female candidates to fill these positions in their units. Two of them specifically wanted to hire a woman to counter the gender imbalance, but could not convince women to participate in a job interview. Since there is a tiny pool of people from ICT who want to work in journalism and an even smaller amount of women, they felt like they were looking for a needle in a haystack.

These dynamics will need to be monitored, but of course, it is not as simple as that. Even though in terms of digital technology, it is common to express things in binary codes of zeros and ones, in terms of gender, speaking in dichotomies is quite problematic. We have to move beyond simply counting men and women, and beyond the essentialist, binary thinking this often results in. Let's take it one step further and find out where these stereotypes come from, how they operate and sustain gender inequality in journalism.

Data ninjas and technical cowboys

It is necessary to make a side note to the positioning of gender imbalances in journalism and tech as a problem on the 'supply-side' in the technology labour market. Gender bias can be integrated at an early stage of the selection process, even before candidates are recruited. Language in job advertisements can contain wording that is biased toward male candidates and discourages women from applying (Bohnet, 2016).

When taking a closer look at job postings for technical positions in journalism with this point in mind, it is not difficult to find forms of gendered language. In a job posting for a data reporter, *Reuters* was looking for "a data ninja who can hunt and slay data, resulting in stories that uncover business secrets, drive markets and challenge titans of industry". The Public

Service Broadcaster of Flanders in Belgium had a position for a system engineer for radio who is a “technical cowboy”. *Mother Jones* wanted a data journalist “who is a hardcore data nerd to illuminate some of today’s most complex and urgent stories, from disinformation to corruption and financial conflicts of interest”. The *Atlanta Journal-Constitution* had a position for an experienced data journalist who is “the perfect nerd, one who combines technical, statistical and reporting sensibilities to help shape our most impactful journalism”.

For words such as ninja, wizard and cowboy, it is quite apparent that they are not gender-neutral and commonly more associated with masculinity than with femininity. Even more so, they correspond with what Connell (2005) refers to as hegemonic masculinity or the culturally idealised form of masculinity that is valued over other types that are subordinated and marginalised in society and justifies the dominant position of men over women. It is generally expressed through characteristics of ambition, strength, self-reliance, power, aggressiveness and the ability to use interpersonal violence in conflicts. Connell (1987) explains how heroes in movies, sagas, westerns, ballads or television fiction have the function of naturalising hegemonic masculinity. It is interesting to keep this in mind when looking at the hero-like status that is ascribed to journalists that combine traditional skills with digital skills. The focus on “exemplary individuals” (p. 249) or individual geniuses who are referred to as ninjas, rockstars, cowboys or unicorns creates an aura of magic around this type of work and the perception that it can only be conducted by people with unique and exceptional capabilities, which can be a deterrent for those who cannot identify with these labels to apply for jobs or build a career in journalism and tech.

The gendered nature of the word ‘nerd’ might be less obvious, but from the previous chapter, we know that it is nonetheless present. Since nerds are stereotypically portrayed as men who are anti-social, highly intelligent and utterly devoted to technology, it can be difficult for women to identify with this label and can lead to doubts about whether they belong in the field of technology and journalism. The relationship of nerd identity with hegemonic masculinity, however, is more ambiguous and complex than for the heroes discussed above. Connell (1995) positions the ‘nerd’ or ‘geek’ as a form of subordinated masculinity and sees them as part of the group of heterosexual men who are not considered as ‘real men’ because they have a lack of sports ability, physical strength, and are usually not successful in sexual relationships with women. However, the nerd stereotype incorporates aspects of hegemonic masculinity as well such as heterosexuality, intellect, rational thought and mastering technology and a lack of ‘feminine’ social and relational skills (Kendall, 2000). This type of masculinity seems very different from the ‘blokey’ or ‘macho’ masculinity that is described

in previous research as hegemonic in journalism and essential in shaping newsroom culture, although the expectation that nerds are coding 24/7 does have some resemblance to the requirement of the around-the-clock availability in journalism, both of which are particularly damaging for women. Does this mean expressions of masculinity are transforming in journalism?

Definitions of hegemonic masculinity are flexible and open to change, so it is necessary to reflect on issues of power and dominance in these discussions. If technological expertise is becoming increasingly important in how power and status are defined in journalism, aspects of the previously marginalised nerd identity can become integrated into hegemonic masculinity and serve to maintain the status quo. Connell (1995) notes that even if not many men meet the definition of hegemonic masculinity, they do not challenge it because they enjoy a patriarchal dividend or an advantage from their privileged position. So even if male journalists do not comply with the image of a nerd who sacrifices his entire life to computers, their privilege to technology is still confirmed because it excludes women and other men who do not fit this image. The next part of this chapter goes deeper into the experiences of journalists with nerd stereotypes and gender issues in journalism.

The evaluation of digital capital

When discussing possible reasons for gender imbalances in technology and journalism, the interviews offered insights into how the digital skills of men and women are evaluated. Several interviewees expressed the belief that women are, in general, less tech-savvy than men and consequently also less active in tech areas of journalism. However, opinions differed on whether this should be seen as a ‘software’ or a ‘hardware’ problem. The participants who positioned this as a hardware issue evaluated digital skills based on a biological essentialist framework, in which women were presented as ‘naturally’ hard-wired to be less tech-savvy than men. For example, a 30-year-old male producer working for a public service broadcaster said:

I believe women are more programmed to have a safe nest and do not take a lot of risks because of this, especially in certain phases of their life. . . . Boys experiment more by nature and dare to fall more on their face.

Although in this essentialist discourse, skills that were ‘naturally’ ascribed to women – such as bringing a more emotional side to stories and delivering a more human perspective – were not considered inferior to capabilities that are attributed to men, but rather as complementary; when taking into

consideration how the value of digital capital is socially constructed, this gender labelling can limit the professional opportunities of women and contribute to a gendered logic associating masculinity with ‘hard skills’ that are highly valued in journalism.

The interviewees who saw the lack of women in tech more as a software problem referred to differences in socialisation and gender stereotypes about digital expertise. Several female interviewees gave examples of experiences before they started working in journalism of not being expected to be as technologically skilled as male peers by parents, in education and the media. For example, a 27-year-old female data journalist had experienced that, contrary to her male friends, she was not stimulated to pursue her interest in coding in school. A 64-year-old female participant working for an international journalists’ organisation compared herself to her twin brother, who was encouraged to study maths and science by her parents, whereas she was stimulated to study literature. She only discovered her mathematical skills later in her career and decided to become a business journalist.

These societal stereotypes sneak into journalism and are manifested by a subtle bias toward the digital expertise of women, similar to the ICT sector (Bray, 2007; Bury, 2011; Valgaeren, 2001; Youngs, 2005). There were evident gendered differences in the experience of bias related to digital skills. While several female participants indicated that their digital expertise is always questioned or tested and that they continuously have to prove their digital skills, none of the male interviewees shared this experience. On the contrary, they were confident about their digital skills and made connections with their career advancement. While male journalists took more a subject position of confidence toward technology, it was common for female participants to express feelings of insecurity about technological innovation and describe their position in terms of ‘fear’ and ‘distance’.

My perception is that women were aware of the potential of technology, but they were afraid of it because it was something that they didn’t understand very much and they would just let men do it.

(32-year-old female interactive and animation director)

The distance to these topics seems to be bigger than just for the male colleagues and then sometimes it seems to be too big.

(32-year-old female online data journalist)

The thing about technology is that it scares you a lot at first. Especially, obviously, when you have to make money with it. Because I’ve always

been a tech-savvy person, ever since I was really young, I've always known my way around it, but having to make money out of it means knowing how to do it professionally.

(30-year-old female broadcast journalist)

For example, a 30-year-old female journalist who was taking her first steps in data journalism described this feeling when she first started working for a visual journalism team of a broadcasting company: "I was incredibly scared. I actually came back home crying every day for a month because I thought that I don't know what I'm doing. This is huge!" At first, she explained her insecurity about her technical skills based on the lack of statistical training in her journalism education. Later in the interview, when discussing opportunities for male and female journalists, she looked at this from a gender perspective:

I think we as women are very afraid of what we think we can do. And we think we can't do many things because we've been taught for a long time that we couldn't do many things. That we had no aptitude to do many things. So I think we are very afraid of asserting ourselves. And I say this from personal experience.

Furthermore, several interviewees saw this as one of the reasons why female journalists are being less vocal about their skills or less inclined to apply for technical positions when they do not meet all the listed criteria in the job advertisement. A 46-year-old female freelance journalist had the feeling that if women were more involved in self-promotion, they would be invited to more conferences on digital innovation and be able to share their ideas with the public. Three other female participants mentioned that when decisions for recruitment or promotions are made, they would be hesitant to talk openly about their digital expertise, whereas their male counterparts would exaggerate their skills:

I always have the feeling that I am incompetent and that I don't know anything. And then I compare myself to all my male colleagues . . . and they just strut around and say I know this, I know that. . . . And it might be true, but I have less confidence.

(33-year-old female broadcast journalist)

I've seen many women that know a lot but don't like to brag about it. . . . It's very difficult to generalise, but men are more like, 'I am here, and this is my thing', right? I've seen that many men have less

44 *Is journalism gender e-qual?*

problems promoting themselves and promoting what they know than women.

(31-year-old female data journalist working for an international journalists' organisation)

Women have always been the ones who did not stand up and say: 'yes, of course, I am doing it'. Even if they are not that experienced in something. They think this is something you have to be very good at, in order to be able to do it.

(32-year-old female data editor working for an online medium)

The lack of self-confidence of women toward technology is also found in other studies (Herring, Ogan, Ahuja, & Robinson, 2006; McDonald & Spencer, 2000). In line with the work of Elisabeth Kelan (2007, 2008), the subject position that some of the female journalists were taking toward technology could be interpreted as a way that women were 'doing gender' because it confirms traditional gender conceptions about digital expertise. However, at the same time, it is essential to take into account that female journalists are constantly reminded of their gender with their technical skills repeatedly being underestimated in the newsroom and in society, which can result in the belief that they are not as good in technology as male colleagues.

The coding ceiling

This gendered logic also seemed to be a reference point in how interviewees defined what a technical position is and what is not. Social media management, audience development, and product placement were often not considered 'technical positions', even though they require technical skills such as data and statistical analysis. Several participants had the impression that these positions are valued less than programming and development, which are often immediately labelled 'technical'. In this respect, it is interesting to go back to the discussion about which digital skills are considered necessary in the current media landscape and note that programming and development were mentioned much more than skills for audience development or product management. A 37-year-old female founder of a news start-up looked at this status differential through an intersectional lens:

A truly excellent product manager who may not be a coder but can link up the editorial side of the business, the revenue side and the technology together, is incredibly valuable. Product and audience development

are roles which we see a lot of more women going into and people of colour also, and I worry that that's why we are not recognising the importance of that work and paying it equitably. I think that it is undervalued in general in the industry.

The reflection of this interviewee is in line with explanations put forward by feminist media scholars for gender segregation in journalism. What this tells us is that although the gendered evaluation of digital skills seems like a completely new barrier, there are many parallels with the traditional gender barriers described in Chapter 1. For example, with the essentialist thinking about the writing skills of male and female journalists that sustains horizontal segregation or with the gender stereotypical ideas about the management capacities that result in the misconception that women are less competent and less suitable for leadership positions that contribute to the glass ceiling. Is the traditional glass ceiling accompanied by a coding ceiling that makes it difficult for women to build a career in programming positions? Chapter 3 will explore this question more in-depth in the context of data journalism. For now, we can conclude that gender expectations are deeply integrated into journalism culture also in new digital spaces that are developing in recent years at the junction of journalism and technology.

The accumulation of digital capital

During the interviews, participants talked about how they gathered their digital capital. First, the route of traditional journalism education was explored. Two points are essential to take into account in relation to this path. First, that many participants saw an overrepresentation of female students in traditional journalism education, but were not convinced this would be immediately translated into higher opportunities in the job market because there is too little emphasis on advanced computer skills. A 23-year-old male magazine web editor, for example, believed that journalism curricula were lagging and had yet to embrace multimedia production and digital storytelling techniques fully. Moreover, he was convinced that news companies would prefer candidates with an educational background in computer sciences rather than applicants who studied journalism. According to the web editor, this could have a negative impact on the opportunities for women in journalism because ICT education is still very male-dominated. A 49-year-old female participant working for an international journalists' organisation agreed with this point of view:

If currently they are hiring programmers, and there is a majority of male programmers, then the women who study journalism, but don't

know how to do the programming, just don't have the competence that the classic media are looking for right now.

Most interviewees had not attained their digital expertise in traditional education but through self-study. Trying and experimenting with new digital tools was described as a matter of trial and error. Many interviewees mentioned that possibilities for internal training in digital skills in their newsrooms are limited, but that there is a wide range of external training possibilities such as online courses (e.g., MOOCs), conferences, hackathons and evening classes. Although these forms of education were considered quite democratic because they are open and often free of charge, not all journalists have equal opportunities for access. Obtaining access required a considerable investment of time, mostly in the weekend or after working hours, which intersected with access to support for childcare. A 48-year-old female data editor at a newspaper drew a connection between work-life balance, age and the data unicorn ideal when she noted that this is only attainable for young journalists who do not have family responsibilities outside of work:

I've watched several unicorns develop and what they did is they spent all their non-working hours teaching themselves new skills. This was before they were married, before they had kids and had all the free time in the world. I just thought: you are crazy! Yes, it can help your career, but you have just wasted some great years of your life in which you need to be having fun. Several of them are now parents, and I can see that they've stalled in their ability to learn something new and don't have time anymore to do it. I work all day, and then I go home and go to my other job of taking care of the kids.

It was clear from the interviews that this was a gendered issue considering that especially female participants mentioned work-life balance issues as an obstacle that limits training opportunities and keeping track with all technological innovations. For example, a 28-year-old female editor-in-chief of a newspaper explained how she tries to balance these different demands:

I don't have a lot of time to play with all these new tools and bring them into the newsroom. My thing is, where am I going to take that time from? From my son? From cleaning? From cooking? From my husband? . . . For one app, I will probably need 12 hours to really learn, implement and use it. . . . And it's probably going to change again in a year or two. . . . I think the important thing is to choose right now which ones you would really need for your work and be smart about where you are going to take that time from. And the most important thing: don't feel guilty if you don't know all of the innovations.

This is another example of how new gendered obstacles emerging in this increasingly digitalised field intersect with the more traditional ones. These findings add new insights to debates on the gendered work-life balance in journalism. Whereas, in previous studies, this is mostly seen as one of the reasons why women leave journalism and have limited access to decision-making positions and social capital, these results show that the combination of the need for continually staying up to date with the latest innovations intensifies the pressure on the work-life balance and limits the access of especially women to digital capital in journalism.

Furthermore, it was not only the amount of time but also the moments that should be invested in external training that discouraged several female interviewees from participating in them. A 32-year-old female online data journalism editor shared her experience on work-life balance and participating in hackathons where data journalists and technologists can exchange knowledge and collaboratively improve their skills:

Most hackathons are also on the weekend, for example, so you have to be really keen on working with your computer, even on Saturday and Sunday. But you won't find this type of colleague amongst women that much. At least in my experience. I don't know if I can really, I can only say this about myself. I really like this work, but I see that to be balanced I need some other things.

(32-year-old female data journalist)

There is a second gender aspect related to the issue of time investment and digital skills in journalism that can be deduced from her quote. Another worry that she is expressing is that to achieve the same level of digital expertise as her male counterparts, she would need to make sacrifices in the rest of her life and spend a significant amount of leisure time on learning and improving tech skills. This discourse of total dedication was common in how female journalists described what it takes to be a good coder. These findings mimic the results of Margolis and Fisher (2002) that show that a 'geek mythology' which portrays computer programmers as entirely devoted to programming and not having a social life is one of the reasons why women distance themselves from the information technology (IT) industry.

Conclusion

The results of this study illustrate how digital capital and gender intersect in journalism. Digital capital is increasingly recognised as valuable and legitimate in journalism. It is associated with status and can be used to gain higher recruitment and career advancement opportunities. In the words of Bourdieu, who sees symbolic capital as the outcome of the conversion of

other forms of capital, we could say that digital capital can be exchanged for high amounts of symbolic capital in journalism. This exchange, however, is gendered.

Even though women and men might have the same amount of digital capital, women will have more trouble translating their digital capital into symbolic capital. Their digital capital is often questioned or tested, or, in other words, it is not seen as 'legitimate' as men's digital capital. This works in line with Moi's (1999) conceptualisation of gender as a form of symbolic capital. Gender is a negative coefficient that intersects with the digital capital of women. As a consequence of their negative gender capital, women are less self-confident and vocal about their digital skills and have more difficulties translating them into career opportunities. In addition, the accumulation of digital capital in journalism is gendered. There is a gendered time issue which disadvantages women in gathering their digital capital, and this intersects with the work-life balance issue and stereotypical images about what it takes to excel in journalism and technology.

However, the study also shows that female participants do not consider themselves 'naturally' predestined to be less technically competent but recognise that gender stereotypes play a role in how their digital capital is evaluated in society and the newsrooms, which contrasts with Bourdieu's description of the acceptance of the gender status quo by women (Bourdieu, 2001). Chapter 4 elaborates on how women are questioning this gendered evaluation of their digital capital. It highlights the role of social capital in this consciousness and explains how this is a crucial intermediary asset in strategies that women use for empowerment through technology in journalism. Before that, we will have a look at the specific case of gender issues in data journalism in the next chapter.

References

- Betancourt, L. (2009, December). *How programmer/journalists are changing the news*. Retrieved from <https://mashable.com/2009/12/11/programmer-journalists/?europe=true>
- Bohnet, I. (2016). *What works: Gender equality by design*. Cambridge, MA: The Belknap Press of Harvard University Press.
- Bourdieu, P. (2001). *Masculine domination*. Cambridge, UK: Polity Press.
- Boyer, B. (2012, September). *Welcome to hacker journalism 101, take your seats*. Retrieved from www.niemanlab.org/2012/09/brian-boyer-welcome-to-hacker-journalism-101-take-your-seats/
- Bray, F. (2007). Gender and technology. *Annual Review of Anthropology*, 36(1), 37–53.
- Bury, R. (2011). She's geeky: The performance of identity among women working in IT. *International Journal of Gender, Science and Technology*, 3(1), 33–53.

- Coddington, M. (2015). Clarifying journalism's quantitative turn: A typology for evaluating data journalism, computational journalism, and computer-assisted reporting. *Digital Journalism*, 3(3), 331–348.
- Connell, R. W. (1987). *Gender and power: Society, the person and sexual politics*. Stanford, CA: Stanford University Press.
- Connell, R. W. (1995). *Masculinities*. Berkeley, CA: University of California Press.
- Connell, R. W. (2005). Change among the gatekeepers: Men, masculinities, and gender equality in the global arena. *Sings*, 30(3), 1801–1824.
- DeVault, M. L., & Gross, G. (2006). Feminist interviewing: Experience, talk and knowledge. In S. N. Hesse-Biber (Ed.), *Handbook of feminist research: Theory and praxis* (pp. 173–197). London, UK: Sage.
- De Vuyst, S., & Raeymaeckers, K. (2019). Is journalism gender e-qual? A study of the gendered accumulation and evaluation of digital capital in journalism. *Digital Journalism*, 7(5), 554–570.
- Future Today Institute. (2018, September). *2019 trend report for journalism, media, and technology*. Retrieved from www.dropbox.com/s/3mtwxmudyhnlcqbf/FTI_Journalism_Trends_2019_Final.pdf?dl=0
- Gynnild, A. (2014). Journalism innovation leads to innovation journalism: The impact of computational exploration on changing mindsets. *Journalism*, 15(6), 713–730.
- Hermida, A., & Young, M. L. (2017). Finding the data unicorn: A hierarchy of hybrid-ity in data and computational journalism. *Digital Journalism*, 5(2), 159–176.
- Herring, S. C., Ogan, C., Ahuja, M., & Robinson, J. C. (2006). Gender and the culture of computing in applied IT education. In E. Trauth (Ed.), *Encyclopaedia of gender and information technology* (pp. 474–481). Hershey, PA: Information Science Publishing.
- Kelan, E. K. (2007). Tools and toys: Communicating gendered positions towards technology. *Information, Communication & Society*, 10(3), 358–383.
- Kelan, E. K. (2008). Emotions in a rational profession: The gendering of skills in ICT work. *Gender, Work & Organization*, 15(1), 49–71.
- Kendall, L. (2000). Oh no, I'm a nerd! Hegemonic masculinity on an online forum. *Gender & Society*, 14(2), 256–274.
- Lewis, S., & Usher, N. (2014). Code, collaboration, and the future of journalism: A case study of the Hacks/Hackers global network. *Digital Journalism*, 2(3), 383–393.
- Mair, J., & Keeble, R. L. (2014). *Data journalism: Mapping the future*. Bury St Edmunds, UK: Abramis Academic Publishing.
- Margolis, J., & Fisher, A. (2002). *Unlocking the clubhouse: Women in computing*. London, UK and Cambridge, MA: The MIT Press.
- McDonald, S., & Spencer, L. (2000). Gender differences in web navigation: Strategies, efficiency, and confidence. In E. Balka & R. K. Smith (Eds.), *Women, work, and computerization: Charting a course to the future* (pp. 174–181). Boston, MA: Kluwer Academic Publishers.
- Moi, T. (1999). *What is a woman?* Oxford, UK: Oxford University Press.
- Parasie, S., & Dagiral, E. (2013). Data-driven journalism and the public good: Computer-assisted-reporters' and 'programmer-journalists' in Chicago. *New Media & Society*, 15(6), 853–871.

- Royal, C. (2012). The Journalist as programmer: A case study of the New York times interactive news technology department. *#ISOJ: The Official Research Journal of the International Symposium for Online Journalism*, 2(1), 5–24.
- Stencel, M., & Perry, K. (2016). *Superpowers: The digital skills media leaders say newsrooms need going forward*. New York, NY: Tow-Knight Center for Entrepreneurial Journalism.
- Usher, N. (2016). *Interactive journalism: Hackers, data, and code*. Urbana, IL: University of Illinois Press.
- Valgaeren, E. (2001). *Loopbanen van vrouwen in management en ICT. Literatuurstudie*. Diepenbeek, Belgium: LUC-SEIN.
- Wenger, D. H., & Owens, L. C. (2012). Help wanted 2010: An examination of new media skills required by top U.S. news companies. *Journalism & Mass Communication Educator*, 67(1), 9–25.
- Youngs, G. (2005). Cyberspace: The new feminist frontier? In K. Ross & C. M. Byerly (Eds.), *Women and media: International perspectives* (pp. 185–208). Oxford, Carlton and Malden, MA: Blackwell Publishing.