

CHAPTER 4

Who Is Publishing What? How Gender Influences Publication Rates

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Abstract: Who Is Publishing What? How Gender Influences Publication Rates

This chapter examines scholarly publishing within the Faculty of Mathematics and Natural Sciences in the University of Oslo from a gender perspective. The question posed is whether women publish less than men, and if so, why. Based on the reported number of publications over the past two years, the study applies multivariable methods to investigate the relationship between the number of publications and factors such as position, total worktime, and gender. The analyses show that gender has little significance when these other factors are taken into consideration. The results are discussed in light of other studies on publishing practices.

Keywords: scholarly publishing, gender differences, multivariable analysis

Introduction

Publishing has become an increasingly important prerequisite for succeeding in an academic career. Outstanding scientific accomplishments, so-called scientific excellence, are often assessed based on the individual

Citation: Holter, Ø. G., Snickare, L. & Gober, G. (2022). Who is publishing what? How gender influences publication rates. In Ø. G. Holter & L. Snickare (Eds.), *Gender equality in academia - from knowledge to change* (Ch. 4, pp. 107–128). Cappelen Damm Akademisk. <https://doi.org/10.23865/noasp.179.ch4>
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researcher's ability to influence their research area. One easy way of measuring this is by registering the number of publications and citations from these publications. As a result, publishing or being cited is, in itself, associated with excellence (e.g., Addis, 2010). According to Campbell et al. (2010), there seems to be a consensus among researchers that the study of publications and citations, bibliometry, is an "objective, reliable, and cost-effective measure of peer-reviewed research outputs" (Campbell et al., 2010, p. 66). Various indicators of scientific productivity are used as a basis for employment, promotion, and allocation of research funding (Reymert, 2020; Wilsdon et al., 2015). In addition, bibliometry is considered a reliable tool for assessing and managing R&D funding (European Science Foundation, 2009). However, there are critical voices among researchers, who argue that bibliometry and its impact factor have become too dominant, and that they are also misleading in terms of assessing scientific quality (see also Haeffner-Cavaillon & Graillot-Gak, 2009; Hicks et al., 2015).

Several bibliometric studies have revealed a gender difference in the number of publications and citations (e.g., Holman et al., 2018; Knepper et al., 2020; Larivière et al., 2013; Ledin et al., 2007; Long, 1992; Price, 2002; Symonds et al., 2006; Taylor et al., 2006; Xie & Shauman, 1998). Studies applying various methods of measuring, adapted to different disciplines, or with data from different periods, all point to the same result: Women publish less than men (van den Besselaar & Sandström, 2016).

Studies of publishing in Norwegian universities show the same result as international studies: Women publish less than men here too. In 2018, a female researcher in Norway produced 1.15 publication points¹ on average, whereas a male researcher produced 1.67 points (D. W. Aksnes, cited in Gjengedal, 2020). This pattern appears across disciplines and countries (e.g., Kyvik et al., 2011; Kyvik & Teigen, 1996).

No satisfactory explanations for these gender differences have been given, however. For example, the fact that women and men most often find themselves in different research areas within academia, and therefore operate within different publishing traditions, cannot explain more

than a portion of the differences in productivity (European Commission, 2004). Most studies of gender differences have discussed specific explanations, such as the significance of care responsibilities (e.g., Ledin et al., 2007; Mairesse & Pezzoni, 2015; Vabø et al., 2012). A study of researchers' time management in Norwegian universities and university colleges showed that male researchers without children work the most hours. Moreover, the same study found that much research production is accomplished during evenings and weekends outside ordinary working hours – in other words, time that those with care responsibilities cannot access as easily as those without such obligations (Egeland & Bergene, 2012).

Aiston and Jung (2015) nevertheless claim that the significance of women's care responsibilities is exaggerated, indicating that other structural explanations, such as the distribution of working hours or the design of the research production process, have been underestimated. Other studies' results suggest, for example, that some of the differences can be explained by the fact that men are older, and hold higher academic positions than women, and that those in higher positions are more productive (Nygaard et al., 2022a; Rørstad & Aksnes, 2015; van den Besselaar & Sandström, 2017).

Feller (2004) maintains that we must distinguish between bibliometry and the academic system in discussions of the causes of gender-related publication differences. According to international research, the academic system is not gender neutral – for instance, women have a lower chance of promotion than men, which in turn affects differences in productivity (Mairesse & Pezzoni, 2015). Nor do women and men have the same access to time and resources related to research and publishing (e.g., Addis, 2004; Aiston & Jung, 2015; Vetenskapsrådet, 2021). Feller (2004) argues, therefore, that gender-neutral bibliometry is gender discriminating in itself. There are also studies showing that a bibliometric system can reinforce gender differences in publishing by valuing publishing practices differently. If the system, for example, awards extra points for international author collaborations, the difference in publication points between women and men increases (Nygaard et al., 2022b).

In this chapter, we take a look at women's and men's publishing practices at the Faculty of Mathematics and Natural Sciences (MN) in the University of Oslo, with position levels and other variables taken into consideration. The question for discussion is whether there is a "gender gap" in academic publishing. First, we describe our results. Since we had a large amount of empirical material containing many variables, we were able to explore the connection between the numbers of publications and, for example, position level, career ambitions, and the portion of working time set aside for research. Many available studies have not included such variables, meaning that we can examine the field from new angles and pose new questions. In our study, we have applied a multivariable analysis. This resulted in a model made up of factors influencing publishing in the natural sciences. In the latter part of the chapter, we discuss this model in light of other research.

What Affects the Number of Publications?

As mentioned, it is commonly thought that gender affects publication rates, and that women publish less than men. Our empirical material was gathered from a questionnaire survey sent to all employees ($N = 843$), and from interviews with researchers on various levels ($N = 85$). The data in the employee survey are based on researchers' self-reporting the number of their publications during the past two years.² The survey contained three questions on publishing. They include the number of peer-reviewed articles published by the respondent during the past two years as either single author, first author or co-author.³ Based on actual figures (from UiO) for publishing, we have reason to believe that this self-reporting is relatively realistic. A most likely subjective discrepancy is that researchers report more articles than what they actually published, that there is a "bragging factor". However, we did not find any clear indications of this – the analyses led to roughly the same results whether we included all respondents or removed the group with the most chance of "bragging" – that is those with a very large number of articles, especially as co-authors.

At first glance, it may appear that our study's empirical data confirm the hypothesis that women publish less than men. The figure below shows a moderate association between gender and publishing (all types of articles). More women publish little, and more men publish a lot.

So what has the strongest effect on publication rate? Or, more precisely, where are the strongest associations? The employee survey shows a surprisingly low correlation between published articles in the past two years, and the number of hours spent on professional work in the past week. The correlation is low for women, and even lower for men. It seems that investing in more working hours per person, or reinforcing a culture of long working hours, is not a good strategy for increasing one's publication rate.⁴

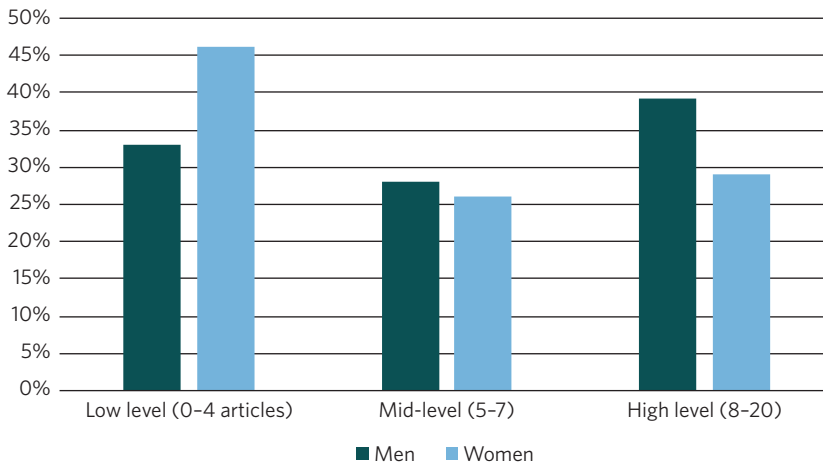


Figure 4.1. Publication Rates During the Past Two Years, by Gender. The figure shows how many publications to which the researchers have contributed in the past two years (self-reporting). The publications are categorized from low to high levels, the columns showing the proportion of women and men in the individual categories. Source: FRONT employee survey (N = 379 academic employees).

However, we see that position level is clearly associated with publication rate. The figure below shows how the publication rate increases with position level.

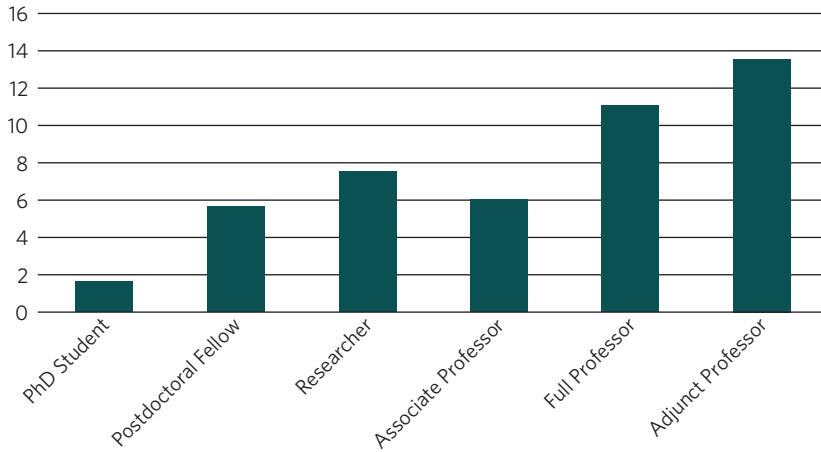


Figure 4.2. Number of Publications During the Past Two Years, by Position Level. The numbers show how many publications the researchers report having contributed to (self-reporting). Source: FRONT employee survey (N = 407 academic employees).

The PhD students publish primarily towards the end or after their candidate period. Thus it is not surprising that the rate appears low here. Furthermore, we see the rate roughly doubling towards a high position level. This is not surprising either, as publication rate is an important criterion for moving up levels.

As mentioned, this is based on self-reported figures for publishing. It is possible that the top levels slightly overreport (what we call the bragging factor). The publication rate in the figure applies to all types of publications – single author, first author and co-author – in an index counting all types equally. It is possible that the statistics for the top level are somewhat affected (or inflated) by large groups of co-authors. For instance, professors might, in their role as leaders of research projects, often contribute as co-authors. For these reasons, the impact of the position level may be slightly exaggerated, both in our analyses and in the figure above.

Other factors affecting publication rate are: achieved career ambition, academic level, and years of experience in academia. Support from one’s supervisor is also important. Our analyses indicate that publishing is a “social” phenomenon and not a “mechanical” consequence of, for example working hours. Those who publish a lot are

for example also often involved in submitting grant applications. Without the one, in and of itself, being seen to cause the other, it is reasonable to interpret this as “associated effects” of underlying conditions.

A New Perspective on Publishing

But what actually decides how much researchers publish? In the previous section, we have seen how much women and men report having published. But is gender the most important variable for publishing? Our material also includes many other aspects of the researchers, such as how they assess their supervision, and who their mentor has been. What happens when we include these variables in the analysis?

We explored this in two phases. First, we looked at how all the variables in the survey were associated with the publication rate for different types of articles, through pairwise analyses. We then selected the most important variables and analyzed these further through multivariable regression.⁵

The pairwise analyses showed that several variables were clearly associated with publishing, including: position level; the portion of working hours spent on research; number of years as a researcher; and assessment of PhD supervision. Many variables, including parents’ education level and unit/department, were not clearly or significantly associated. Achieved career ambition was clearly associated but is probably more of an effect than a cause of publishing.

The main result from the pairwise analyses was that gender did not enter the picture as a significant factor in explaining publishing. But was this correct, or was it perhaps spurious? In order to find out, we followed up with other types of analyses. The multivariable analyses showed approximately the same result, however. Gender did not appear among the most important associations or causal factors, based on explorative regression analyses. Working hours entered the picture a little more clearly than in the pairwise analyses, but overall the results were very similar.

An analysis is shown here (with standardized beta values).

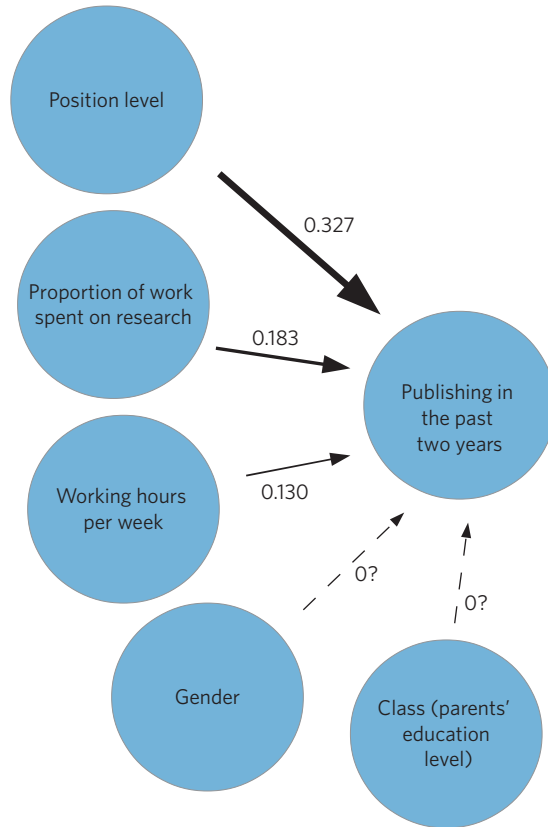


Figure 4.3. Factors Associated with Publishing, by Strength (the arrows represent beta-values in a regression analysis). Stippled arrows and question marks are used for unclear effect. The figure applies to total publishing (single author, co-author, etc.). Source: FRONT employee survey (N = 623 academic employees).

The Figure shows associated variables (possible “reasons”) why researchers publish a lot. The researcher’s gender (and class background) seems to be of little importance when corrected for other variables.⁶

Position level is clearly the most important factor, having a strong connection to publishing. On a more moderate level, two features related to working hours come into play. The quality of time, that is the portion of time spent on research, is more crucial than the quantity (working hours per week). When position level and the other “structural” variables are included in the analysis, ambition level is less crucial.

We also ran the analysis separately for each gender. The result for women was that five variables are at work in regard to publishing: position level

(beta 0.357); the proportion of time for research (0.278); weekly working hours (0.255); ambition (0.213); and parents' education level (-0.141). The same analysis among men provided a model with four variables: position level (0.364); parents' education level (0.182); the proportion of time for research (0.111); and weekly working hours (0.105). Here, ambition was excluded.

A consistent major finding is that gender is of relatively little importance. This is confirmed across various statistical analyses. The correlation between working hours and publishing is relatively moderate, 0.176. If we include gender, hardly anything happens (partial correlation 0.175).

Leave of Absence

In the employee survey, we have also looked more closely at taking parental leave and leave in connection with family or care needs. Neither has a clear effect on publication rate, even though longer periods of parental leave have a slightly negative effect for women. The reason why this has only a weak and unclear effect is perhaps primarily that the survey did not have the same time limitation for these questions. The questions on publishing included the past two years, whereas the questions on leave included one's entire career.

In order to test this, we looked at publishing among younger participants, whose periods of leave were closer to the past two years. But even here, we found no clear correlation between time spent on parental leave and (lower) publication rate, neither for men nor women. In other words, we do not see any clear indications that use of parental leave reduces publication rate.

At the same time, the FRONT material shows that many, especially women, experience problems when they return to work after care leave (see Chapter 1). It may seem as if the *actual* publication rate is less affected by leave than assumed – while leave, especially for women, nevertheless appears to be a burden, and causes difficulties when one returns to work.

These results are surprising and must be described as preliminary, since the time periods are still different, and since we have not asked

detailed and in-depth questions about leave. However, they may be interpreted as an indication that the notion that leave necessarily *must* have negative effects is ripe for revision. It may be that leave is “more neutral” in terms of publishing than previously presumed. Findings from working life studies show that use of leave (and gender-balanced use) can be important for innovation and development (Holter, 2007; Puchert et al., 2005; Scambor et al., 2013). Leave may engender new impulses and more quality – also for researchers. At the same time, we have a lot of material showing that leave is *experienced* as a burden, particularly by women, not because there is anything wrong with the period of leave in itself, but because women experience problems returning to work after this period (see Chapter 1; Thun, 2019).

When Is a Point a (Good) Point?

That publishing and the number of citations are essential parts of a researcher’s reality is also evident in the interviews. Cecilie, a female postdoctoral fellow, describes the ideal researcher in this way: “A typical top researcher within my discipline, you publish a lot, and often in high impact journals.” Heidi, also a female postdoctoral fellow, says the certainty that she had good publications was what made her decide to remain in academia after completing her PhD. “Because you know how tough it is to get a position, but everybody thought I had a good chance of making it. So it was also very ... I wasn’t really hesitant myself, it was ... everything worked out well, I had a number of good publications, and it was a natural choice to do it. Yeah.” Despite difficulties getting a permanent position, both Heidi and her supervisor thought she would succeed because she had such good publications.

Many of the informants think that the number of publications is given too much emphasis, for example, when allocating research funding, and that publications are the only thing that counts. “At least I feel that often the only thing that counts is publications,” says Cecilie, a female postdoctoral fellow. Tone, a female associate professor says the same: “And then, if I submit a CV to the Research Council, and say that I have been a member of such-and-such committees, and

I have contributed to developing my discipline and taught so much, that is something they do not take [into account] ... they count the publications.” Bente, a female associate professor, confirms the tendency and the notion that teaching does not count, despite being “super important”. According to her, merely counting the number of articles is “extremely dangerous”.

The informants agree that there is a conflict between research and other duties, such as teaching. Marit, a female postdoctoral fellow, says that she would like to write more articles based on her PhD dissertation, but that she has no time for that now: “I think that, yeah, but I can’t do that now when I am in another project and have teaching duties as well, so I think that I have to do it next year.” Sigrid, a female associate professor, also describes how teaching takes time she would otherwise have spent on writing: “I spend whatever time it takes on teaching. But of course, that is at the expense of me being able to sit and write. This is detrimental to research, since it does not affect other deadlines, it can’t, they are deadlines.” Tone, a female associate professor, describes having time for writing precisely as her “greatest challenge”. The teaching schedule has priority:

So it is my greatest, my greatest challenge to take those weeks when I’m not supposed to be disturbed by anything, when my only task is to complete articles that have been lying there waiting for me, I want to get them out there because it will help me. [...] and I know that as soon as I’m allowed to concentrate on it fully, I will finish it. There is not that much left. But it is just not done, because every week there are new things that I have to do. So I never get those hours.

Ingeborg, a female professor, also wishes she had more time for research: “I really would love to have time for research, in order to be able to do research outside of holidays and things.” Since she has no time for research during her ordinary working hours, she usually writes during her holidays: “One of the journals has a deadline for a special issue after summer, because then you can write something during your summer holidays. [...] I sat here writing now in July, and the rest of the family were on vacation.”

The informants agree that writing articles happens during evenings, weekends, and holidays. Other duties have fixed deadlines and, therefore, cannot be postponed in the same way as writing. Even though they consider the number of articles to be the most important factor to succeed in an academic career, writing articles only happens when other job assignments are completed. “I work weekends if I have to. And then it is deadline driven, it is often for a publication, I mean articles,” says Marit, a female postdoctoral fellow. Siri, also a female postdoctoral fellow, explains that she also writes articles after ordinary working hours: “If you’re working on an article, which is due for submission, you often sit a bit longer.”

When the interviewees describe the publication system, it becomes evident that they think some articles within certain research areas are easier to write than others. Sigrid, a female associate professor, says: “It is not really taken into account that it actually takes time. Because within some areas it doesn’t take that much time, perhaps the experiments are done quickly, and then you can just spit out an article. Whereas other things take longer to finish. And this is not taken into consideration.”

Another problem discussed in the interviews is the different publication practices within different disciplines and research groups. This makes it difficult to assess competence based on the number of published articles. Anna, a female associate professor, says that some researchers have many publications because they belong to a big research group “in which they are [listed as co-authors] on all the publications written within that group.”

The interviews describe who should be listed as authors of articles as a matter of negotiation. Heidi, a female postdoctoral fellow, says: “Even though ... the rule says in fact that you are only supposed to list the names of those who actually contribute to the research work, those who write the article. But I can easily say that this is often not the case.” This is a problem for Heidi. She is a postdoctoral fellow and needs to show independence in her research, in order to apply both for research funding and positions: “I’m a postdoc, so I need to be independent of my supervisor, autonomous. So” But publishing is also important to her former supervisor, and in many disciplines it is common that the person who received funding and leads a project is also listed as an author on all

publications within the project – regardless of whether they have actively participated in writing the article itself. Heidi says:

There seems to be a convention here that the project leaders are listed last on the publication, which implies that, yeah, they are the boss. And in that way, it seems as if the first is the most important, and the second might perhaps also be a little important, and then all the names between the last two and the first two actually mean very little.

Heidi says she originally wanted to take some of the co-author names off one of her articles. But when she asked some of her colleagues, they advised her against it:

Because you put yourself in a kind of unfriendly situation if you do. You are very dependent on what the bosses think. And if the boss does not get his name on a publication, he might perhaps interpret that very badly. And the others could become your boss on other projects.

Jorunn, a female postdoctoral fellow, says that the senior researchers in her research group are very “all right” about not being listed as co-authors on all her publications. “They don’t have to be part of all the publications, and ... when you’re applying for projects to the EU, for example, you have to show independence, right. I think they are very ... they have been very all right.”

Senior researchers also describe how author crediting is a matter of negotiation. According to Sigrid, a female associate professor, there is a balancing act between building one’s own career, and at the same time helping the people she supervises on the way to their careers as researchers:

So I’ve also been honest and said to him, “Right now I am dependent on the articles that you come up with, so you will be the first and I will be the last author,” because that means ... in our field being the last kind of means that you’re senior. But after that, he must be allowed to be the last author, and that is simply to let him build his career. And in a way, that is not smart of me, but I know it is good for him.

Our interviews show that writing articles often must give way to other tasks – despite the fact that the informants consider a large number of

publication points to be the key factor in having a successful career as a researcher. Teaching, supervision, applications for projects, and many administrative tasks normally have fixed deadlines, and therefore have to be prioritized before writing articles. Therefore, writing often takes place outside of ordinary working hours, or during weekends or holidays. Many interviewees maintain that the number of published articles is emphasized too much, both when it comes to the allocation of research funding, and in appointment processes. Different publication practices, where author crediting is not only reserved for those who have actually written the articles, means that the number of published articles is not always a reliable measure of real research competence. Article authorship is often a matter of negotiation, where senior researchers' need for publications is weighed against younger researchers' need to demonstrate independence.

Discussion

Our analysis shows that women and men publish roughly the same amount, at least based on self-reporting, when other factors are included in the analysis. When testing for a wide set of variables that may influence publishing, two stand out from the rest – position level, and the proportion of working hours spent on research. Women and men are decidedly unequally distributed in the position hierarchy at the faculty, with an increasing gender imbalance from the PhD level up towards the professor level. Our study also shows clear gender differences in the proportion of working hours spent on research among associate professors and full professors.⁷ We thus see that what appears, at first glance, to be a gender difference is instead a difference in working conditions. Women publish less because they find themselves in lower or weaker positions and have less time for research. When we correct for this, and analyze women and men in the same situation, the gender difference disappears.

We also find that publishing and publication points are central, but also often controversial topics in the researchers' everyday lives. This is evident from the interviews. There is a clear tendency that a point is not “just” a point. It is subject to different assessments depending on context.

Different disciplines and research groups have different opportunities and routines for publishing, which are not taken into consideration when only publication points are counted. The younger researchers also report requirements that the publication must be *independent*. You cannot just follow in your supervisor's footsteps. Studies show that women, as a tendency, may be less recognized as co-authors than men, which may suggest that it is more important for women than men to demonstrate independence in publications (Sarsons, 2017).

Although prestige and publishing are not the same things, our results show researchers who prioritize publishing highly. "Publish or perish" is part of the mentality, preferably on the high or excellent level. This applies to women as much as men. It appears that publishing increases one's chances to submit grant proposals for research projects (although we do not know for sure what is cause and effect in this context). We know that the chance of being granted research funding increases greatly with publications. As we described, the number of publications is also connected with ambition level, but this effect is not very clear when other variables are included in the analysis, and not even significant in analyses of men. Perhaps ambition is mainly an intermediate variable (leading to more time to write, publish, etc.), rather than a basic causal variable. The interview material generally provides little support for maintaining that the ambition level is lower among women than men.

These are strong and somewhat dramatic results. But – are they realistic? The findings in this chapter show that different factors influence publication rates. The analyses are partly exploratory, and which factors are at work and how strongly they work vary somewhat between the analyses. Nevertheless, the overall tendency is clear: Gender disappears from the multivariate models and does not appear clearly as a separate causal factor.⁸

Our results are not unique. Other recent research controlling for several factors points in the same direction (e.g., van den Besselaar & Sandström, 2017). The significance of gender seems to have been exaggerated, and/or has decreased over time. Recent Norwegian studies also indicate that gender matters less when other variables are included in the analyses, such as

the number of working hours spent on research. Nygaard et al. (2022b), for example, find in a study of publications in Norway that more than half of the differences in productivity can be explained by the fact that women and men are found in different disciplines and institutions, on different position levels, and that men are overrepresented in older age groups.

The fact that a small proportion of researchers publish an extremely large amount also affects gender differences in publications, between men and women (see Kwiek, 2016). Norwegian data (based on the registration system Cristin) show, for example, that a small group of researchers are listed as co-authors of a very large number of articles, so that the 10 per cent most productive researchers account for as much as 43 per cent of publication points. Since this group is highly male-dominated, it pulls the average up (Aksnes & Wenaas, 2021). Moreover, the counting method matters a great deal. If we only count articles in journals, the gender gap is large, but if we include other types of publications, and also other conditions such as position and discipline background, the gap decreases considerably (Nygaard & Bahgat, 2018).

Our results draw attention to the work organization, such as time for research as part of working hours – more than gender or conditions at home. The fact that care leave does not strongly nor clearly affect publication rates negatively is one of the indications of this. Other research also shows that “the family explanation” for women’s lower productivity is insufficient (Aiston & Jung, 2015).

Based on the gender gap in career obstacles described in other chapters in this book (see Chapter 5), one might presume that the result would be fewer publications and lower ambition levels. But this is *not* a clear tendency. Instead, women follow up more than one might expect. Perhaps they publish more out of *impatience* in relation to their ambitions, whereas the high number of publications among men seems more connected with being *satisfied* in relation to one’s ambition level.⁹ When seen in light of the obstacles described in the other chapters, we can perhaps say that women publish “in spite of” and not “because of” the system.¹⁰ “Resilience” may be a keyword here (see Chapter 12).

The analyses in this chapter provide a ranking of conditions that affect publishing, although we cannot always be sure what is cause and effect.

How much, for instance, does the proportion of time for research – when female associate and full professors report less time for research and more time spent on teaching and administration than men – affect publication rate? Here, we have good reason to believe that the effect goes mainly from little time for research to low publication rate, but the effect may also work, to some extent, the other way. Those who publish less are given more “other” tasks.

We also see – here as well as in other places in our study – that class background, measured through parents’ level of education, works only relatively weakly (and somewhat differently among women and men). This might perhaps be interpreted to mean that class can work both ways in relation to publishing, and/or that much class-based selection has taken place before the position levels for which we have data. Nor do we see any clear differences based on ethnicity (see Chapter 6). All of this points to the fact that there are conditions here and now, especially relating to work organization and culture, that play a role, rather than background factors in themselves, though these also work indirectly.¹¹ Social class and ethnicity have an effect, but there is much individual variation within different groups in terms of publication. This variation is linked to the organization, position level, time use, and other factors.

Our study involved questions relating to publishing and included many questions on conditions related to environment and culture, which have not previously been included in the picture. However, the study does not constitute an in-depth examination of the topic. For example, the interview material described researchers who have been assessed in very different ways, based on different peer reviewers and committees. We need more systematic knowledge here. Social-psychological factors, such as ambition level, self-confidence, and gender roles should be better elucidated, as should organizational culture, support, and networks. The analyses in this chapter are a contribution to further research.

Conclusion

Our study shows that the idea that women publish less because they are women must be modified. On average, women publish less than men

because they find themselves in lower or weaker positions, have less time for research, and have less support. When we correct for this and analyze women and men in the same situation, the gender difference disappears. Other recent research has found somewhat similar results. The importance of gender appears to have been exaggerated and has perhaps also decreased over time.

The main result from the analyses of the employee survey and the interviews is that women and men, when given roughly equal conditions and equal support as researchers, publish roughly the same amount. These findings draw attention to the work organization and the organizational culture, more than to gender issues, or family or home conditions. The fact that care leave does not strongly nor clearly affect publication rates negatively is one indication of this conclusion.

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Notes

- 1 In Norway, research publications are registered and awarded publication points through the Norwegian Publication Indicator (NPI). These points play a central role in competition for academic positions. See <https://npi.hkdir.no/>
- 2 The data reflect the “normal” situation before the covid-19 pandemic, which – according to international reports – had a negative impact, especially on women’s publication rates (see Ribarovska et al., 2021; Viglione, 2020).
- 3 The survey did not ask about publication levels (levels 1 and 2, in accordance with Norwegian standards).
- 4 This applies to the total amount of working time. The portion of this that can be spent on research is essential, as shown below.
- 5 The work was carried out in collaboration with Åsmund Ukkelberg at the analysis firm Ipsos.
- 6 The figure is based on explorative regression analysis and does not constitute a causal model (Nishida, 2018).
- 7 While male associate professors spend 35 per cent of their working hours on research, the figure for female associate professors is only 24 per cent. The difference is also considerable among full professors, where male professors report spending 39 per cent of their working hours on research, whereas the figure for female professors is 33 per cent.

- 8 The possibility that the results may be spurious are discussed in the appendix "Method".
- 9 We see a tendency towards a lack of satisfaction in relation to level of ambition to be associated with more publications among women, particularly on the middle-level. The figures are small, however, N = 38 women on the researcher level. Among men, it is slightly more often the satisfied who publish the most, or there is little difference between the groups.
- 10 Thanks to Knut Liestøl for this formulation.
- 11 See more about this in Chapter 6 and the appendix "Method". Our material is too limited to allow us to take a closer look at "weak but nevertheless important" background variables. For instance, this applies to the ethnic dimension, including several relatively different sub-groups, but also the class dimension, with different education levels. The point here is simply that some variables form a clear foreground linked to the work situation, so that gender, class, and ethnicity play a relatively minor role.