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Why Documenting Every Gender Bias Counts: A Short Commentary

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At the time of writing this article, in the midst of the COVID-19 pandemic, its toll on women is becoming increasingly evident. Women face severe limitations in their access to reproductive healthcare and rights (in Poland, through the recent Supreme Court decision), and domestic violence has increased, as has inequality in household duties (Burki, 2020; Cousins, 2020; United Nations Women, 2020). These outcomes do not develop out of the blue. Recently, the United Nations Development Programme (UNDP, 2020) released a report stating that 90% of the global population shows at least some bias against gender equality. Therefore, the pandemic situation seems only to amplify and uncover tendencies that have already been present.

With this global perspective in mind, I would like to zoom in on the scientific community and even more narrowly on the community of social scientists. Why? The aforementioned ubiquity of gender bias shows that it is deep-rooted in society, and every social stratum has its own way of mirroring global trends and enacting these tendencies. In this short commentary accompanying a publication regarding yet another subtle gender bias in academia (Fleischmann & Van Berkel, 2021, this issue), I would like to emphasize why documenting every bias counts and that the change in global trends in gender equality will not happen without transforming our own (or every) field.



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The research by Fleischmann and Van Berkel (2021, this issue) replicates the well-known finding that female scientists have fewer publications than men (in psychology: Odic & Wojcik, 2020; or in general: van den Besselaar & Sandström, 2016). Furthermore, the gender gap in publishing also extends to authorship positions other than the first and the last (often associated with a higher supervisory status). Specifically, women are underrepresented in middle authorship, which is important for general productivity, as it boosts the research metrics and at the same time is less costly than first authorship. The authors explain this pattern in terms of (among others) a possible tendency to either not invite women to collaborate or to not credit their contribution with an authorship.

Fleischmann and Van Berkel's article joins a group of recently published articles that also reveal subtle or less subtle manifestations of gender bias indicating that women, despite being a majority of social scientists, tend to have less of a voice and influence in shaping our field (Nittrouer et al., 2018; Skitka et al., 2020). In other words, women are underrepresented and celebrate fewer achievements than men especially in those areas in which stakes are high. This is evident in the lack of recognition of women's scientific work (Eagly & Miller, 2016), in their lower research outputs (for a review, see Gruber et al., 2020; just in the time of COVID-19: Oleschuk, 2020; Viglione, 2020), but also in structural inequalities, showing that with increased status women's presence becomes more and more sparse (Gruber et al., 2020). Research has captured this hierarchical gender asymmetry in promotions (Ginther & Kahn, 2015), payroll (American Psychological Association Committee on Women in Psychology, 2017; Ceci et al., 2014), deanship representation (Bilen-Green et al., 2008), and grant success rates (Bornmann et al., 2007; van der Lee & Ellemers, 2015). Together, these inequalities point to a less privileged position of women in academia (European Commission, 2016), even though equality is a human right not a privilege.

Underrepresentation of women in academia, however, is not only a matter of equality but it also influences the *quality* of science. Diverse experiences bring diverse ideas and perspectives to science, thus fueling creativity and innovation and helping overcome a group think or confirmation bias within the scientific community. To illustrate this, in an unprecedented analysis of over a million doctoral theses in the United States, researchers found that underrepresented groups in science (women and non-white scholars) created novel content to a larger extent than the majority group (Hofstra et al., 2020). However, innovation was adopted (that is, repeated and circulated in other theses later on) to a greater extent when proposed by the dominant groups (see also: Larivière et al., 2013). Unfortunately, unlike for a majority group, novel and impactful innovations of women and non-white scholars did not benefit them in terms of their career development. Therefore, having the competences to be a successful scientist is not enough to succeed in academia. Similarly, other research indicates that differences in the career patterns of women and men are not the product of different levels of commitment (Wennerås & Wold, 1997) but rather of gender bias.

Given the moral and merit-based arguments for gender equality in science, the fundamental question is: Why is it taking us so long to achieve equality? Among many documented reasons (Eagly & Miller, 2016; Gruber et al., 2020), one seems to be often understated. The fact that women are underrepresented and underappreciated for their work does not happen in a social vacuum. Men are the privileged group, yet as in every other field, those in a position of privilege tend to overlook that their competitive edge comes from anything else than merit (Ellemers, 2014). Not only men but also some women engage in such system justifying strategies, and particularly if the system supports male dominance and discrimination of women (e.g., queen bee phenomenon: Ellemers et al., 2004; Faniko et al., 2020). Therefore, without a substantial reform it may take a long time before we will arrive anywhere near to gender equality. Yet, change requires an active effort and a redefinition of how we deal with gender issues within academia, even though this may feel initially uncomfortable and seem like losing ground (Kosakowska-Berezecka et al., 2020). Why change happens so slowly can be understood by looking into a different domain, that of pro-environmental behaviors. Here, change is happening slowly because it requires giving up some dietary pleasures and redefining our lifestyle. Little will be achieved in terms of preventing climate change without transforming our attitudes toward the planet from one of exploitation to one of caring, or without a realization that it is our joint problem (Amel et al., 2017). Similarly, without a transformative approach to academia and a joint and coordinated effort, we will not only reproduce gender bias, but also produce science that is biased. In conclusion, just as in the case of environmental indifference, it is time to change that.

But how? While, delineating a comprehensive program of introducing gender equality in academia or psychological science is beyond the scope of this humble commentary (for a thorough review, see Ellemers, 2014), two factors seem to be of utmost importance. The first refers to institutional regulations correcting for the structural inequalities within academia and the underrepresentation of women especially at high ranks. Accordingly, more women in deanship positions (Bilen-Green et al., 2008) or as chairs of a prominent conference (Johnson et al., 2017) was shown to translate into higher gender equality among faculty members and speakers respectively. The opposite pattern has also been observed; that is, that the overrepresentation of men was associated with lower gender equality. For example, special issues edited by men tend to have predominantly male authors (e.g., Perspectives on Psychological Science: Ledgerwood et al., 2015). In life sciences, elite laboratories were composed predominantly of men, who showed a preference for hiring ingroup members, that is, other men (Sheltzer & Smith, 2014). Ensuring an adequate gender representation especially in decision making bodies such as universities or editorial boards, grant agencies, or hiring committees can help overcome gender inequality (an example of the fair policy is dual editorial leadership that our community once adopted; see Spears & Maass, 2009).

The second factor that seems, however, essential for a systemic change to occur refers to educating ourselves, our students and society. We can start by considering and acknowledging the abundant evidence that the scientific community is not at the frontier of gender equality. To date, studies documenting gender bias are often seen as a replication of a well-known finding or nothing deserving space in highly visible publication outlets. Accordingly, there is also a meta-bias, which indicates that studies addressing gender bias or discrimination are less valued in the scientific community than studies reflecting other types of inequalities (Cislak et al., 2018). Acknowledging the presence and consequences of gender bias in academia is important, however, to address painful elements embedded within the academic community such as status-related bullying or sexual harassment (Keashly, 2021), which affect women to a much larger extent than men. Raising awareness about mechanisms of such malicious practice can help to address the problem in at least two ways. On one hand, it allows for introducing institutional buffers. On the other hand, the more people know about the problem, the lower the threshold of acceptance of seemingly low harm behaviours such as sexist jokes or comments on appearance. In a different domain, an increased awareness regarding the negative effects of bystander apathy is believed to play a role in decreasing the bystander effect over time (Fischer et al., 2011).

Furthermore, sharing awareness on the presence of gender bias can affect the introduction of progressive measures correcting achievement metrics and evaluation of scientific merit for inherent gender biases. For example, in hiring and grant applications, men receive stellar recommendations praising their excellence (e.g., Madera et al., 2009; van der Lee & Ellemers, 2015), which is also how men describe their own scientific contribution (Lerchenmueller et al., 2019). The strength of this male-brilliance association across scientific domains is related to the proportion of women accepted into PhD programs (Leslie et al., 2015) and to women themselves considering academic careers (Bian et al., 2018). It seems thus important to inform hiring or evaluation committees on these biases and to evaluate applicants based on project (rather than personal) merit (van der Lee & Ellemers, 2015). In a similar vein, educating students can help young women to be aware of the subtle mechanisms that may affect their professional choices and, of importance, contribute to breaking gender bias in teacher evaluations by students. Research has demonstrated that female lecturers tend to be graded less favourably compared to their male colleagues, likely because the male gender facilitates an association with brilliance (Mengel et al., 2019; Renström et al., 2021).

That change is possible has been documented in an analysis of measures that were introduced to overcome gender inequality in the past (Gruber et al., 2020). For example, Fleischmann and Van Berkel (2021, this issue) document that the previously observed gender gap in first authorships in some journals (Brown & Goh, 2016) has decreased over time. This is at least in part due to having uncovered bias and thus allowing for targeted action. As we are likely not aware of all the ways that gender bias operates in

practice, only taking note of every instance of bias will allow preventive measures to be implemented. In conclusion, documenting *every* bias counts!

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