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Sex and Gender dimension in frontier research ERC annual conference

Keynote Session - Q&A

Q1: How many forms of gender does one consider, genetic XXY for instance, transsexual. Do animal models really reflect the genetic diversity of humans? Does not seem to be in your lists along with behavioural factors.

Sabine Oertelt-Prigione reply: First a brief note on terminology. XXY would fall into the realm of biology, hence "sex". Transsexual is a term that is rarely used today and generally replaced by transgender. The focus is more on the gender identity than on sexual orientation, this would all into the field of "gender". Importantly, gender identity does not predict sexual orientation and, as described, gender is something that is done rather than a statical concept of what someone is.

In relation to the question, mouse models can represent sex and sex differences quite well, they do not represent gender. More specifically, there is a limitation in the representation of sex variants in mouse models, as most models focus on XX or XY animals. However, in recent years animal models harbouring a X0 or XXY karyotype have been reported.

Q2: You said earlier in your talk that asking people is the only real way to determine their gender identity. What is the rational for taking a prescriptive approach (defining womanhood with an inventory, measing how well people fit the category) when one could take a descriptive approach, and ask people?

Sabine Oertelt-Prigione reply: As described in the lecture, there are different dimensions of gender and these can be addressed in different ways. I mentioned gender identity, gender roles, gender relations and institutional gender and briefly touched upon gender norms. Gender identity is generally best assessed by individuals themselves, rather than through other measures. What can be assessed from outside are gender norms and gender roles, e.g. in how far individuals conform to these norms or how a group defines these norms. One could, for example, ask a group of students or patients what they define as masculine and feminine and use these definitions to investigate whether being more feminine or masculine affects the expression of symptoms or access to healthcare. I assume this question might also relate to the Gender Index by prof. Pilote and colleagues, which I showed and which classified individuals on a scale from 0-100 on masculinity/femininity. Again, what is reported here is masculinity and femininity, not being a woman or a man. A man can display feminine behaviour and a woman can adhere to masculine norms.

Q3: at which level of the funding chain would you advise to impose added control to ensure a better gender balance in studies…?

Sabine Oertelt-Prigione reply: Currently, gender balance in study recruitment or at least attention to the topic is required when funding is requested. Although it is a criterion of excellence according the to the EU Commission, there are no strict guidelines on numbers and reviewers have to subjectively judge how meaningful this aspect is. What should be done, in my opinion, is standardize the evaluation of the gender dimension and – most importantly – monitor its actual execution halfway throughout the project. Researchers will promise a lot of things when submitting a grant, some will strictly adhere to these promises, other will do it less. This is not necessarily due to bad intentions, sometimes the reality during a multi-year project does not allow to perform some experiments that were initially envisioned. However, if it is clear that monitoring will take place and that the gender dimension will be one of the aspects monitored, this could support its standardized incorporation throughout a project.

Q4: Some research focused on sex differences, especially in human neuroscience, has flued sexist societal discussions, as the results can sometime be misused as a justification for inequality. How would you suggest mitigating this problem?

Sabine Oertelt-Prigione reply: This is indeed a problem we as a community have to be aware of. Aside from the biological determinism applied by some in the field of neuroscience, certain areas of the political spectrum also like to either make use of biological determinism or instrumentalize all scientific research into gender as “gender ideology”. Rather than focusing on science and the advancement this can bring, the topic is used for fear mongering within a target group that oftentimes has a limited understanding of what gender is and what is being researched.

In the field of the biomedical sciences, where I work, we work with both the concepts of “sex” and “gender”. It is a tricky process to disentangle the influence of the one or the other and clearly define their interaction at times. What we definitely see is that there are biological differences at many levels, but also that the human body is a plastic organism. This specifically applies to the human brain. While I might not be able to change the enzymes in my liver much – which influence how my body processes medications – my brain can very much adapt to its environment. It is important to highlight that biological sex differences do not automatically translate into ability or aptitude for certain topics. They only translate into this, if we build a system that favours certain biological aspects over others and then back-translate this into a discourse on ability. It´s like building less toilets for women than for men, send everybody on a break, watch the people in line and then conclude that women take much more time in the bathroom because they like to chat. They were chatting because the waiting line was longer, not because they inherently do it more than men.

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Q5: Can you suggest ways of teaching Gender & Diversity in higher education graduate schools that do not mainly focus on this important topic?

Sabine Oertelt-Prigione reply: What we have seen in our research is that the incorporation of concepts of sex, gender and diversity into teaching is a step-wise process. Usually, it starts with an add-on offer, such as an elective module or a minor and when there is enough support from the students, one can make a case for broader implementation. What oftentimes helps, is incorporating these new elements in a change process of the curriculum. Teaching curricula are usually revised or updated at regular intervals and this could be used as an opportunity to add new knowledge into the present formats.

Q6: Thanks for the very interesting presentation! Assuming that one works in a field with no obvious gender-related content (context is always relevant), for example astrophysics. How could a researcher in this discipline check whether they are overlooking something that could be gender-dependent? It's difficult to know what you don't know! Like your nice example of the rats reacting in an unforeseen way to the sex of their handler

Sabine Oertelt-Prigione reply: I must admit that I am not familiar with examples from the astrophysics field in terms of content. Of course, gender will play a role on terms of representation and decision making, but I assume we are focusing on the content of the research here. Since gender is an element of our identity and a performative act we do as human beings, I think it should be considered whenever humans are involved in the process, as research subjects or as researchers interacting with another organism. If the object of analysis is e.g. a law of physics, the behaviour of waves or the dynamics of black holes, gender does not play a role at the content level.

Q7: You mentioned that mice react slightly differently to pain depending on the sex of the experimenter. How big is "slightly"?

Sabine Oertelt-Prigione reply: I would refer to the original publication with all the details, Sorge RE et al., Nat. Methods, 2014.