

ENGAGE 28 : Professor Teresa Rees Excellent Research Needs a Gender Dimension

The Research Excellence Framework focuses attention on the quality of the research that academics produce, and of course its impact. In assessing the quality of research it would be helpful if REF paid attention, where appropriate, to its gender dimension. There are, alas, all too many examples of research projects where gender has been inappropriately ignored, to the detriment of the quality of the research. Moreover, this omission has sometimes had dire consequences; an 'impact' of an unwelcome kind.

The European Commission conducted a post-hoc review of the way in which gender had been addressed in projects funded under the Fifth Framework Programme. It demonstrated weaknesses in many projects, across all disciplines, because gender as a variable had been ignored. In the US, drugs have had to be withdrawn from pharmacy shelves because while they were not tested on women they were prescribed to them, with adverse consequences. Drug testing all too frequently involves only male mice, rats and then humans in clinical trials, largely because it is cheaper. As a consequence, women are expected to accept medicine with much less of an evidence base. The aspirin-a-day mantra is derived from research tested only on men; heart disease is different in women. Anaesthetics and pain relief have not traditionally taken account of the impact of the gender of the patient. At the same time, research on breast cancer and osteoporosis has tended to exclude men, despite the fact that they may experience both conditions.

But it is not just medical research that has ignored gender. Dummies designed to test the impacts of crashes in newly designed cars have only recently included female versions, and, even now, airbags are positioned such that upon inflation they kill the foetuses of pregnant women sitting in passenger seats. Gender is a highly significant organising principle in the labour market and in career trajectories, wages and life span (Hills et al, 2010). It is a critical variable in patterns of consumption of public and private goods and services. There is a growing literature on the weaknesses of research that ignores gender, as a recent special issue of *Interdisciplinary Science Reviews* (ISR 2011) shows. This will have an impact on impact.

The need for sex and gender analysis in research has been recognised in the US for some time, both by funding bodies (the guidelines of the National Institutes of Health have insisted on the inclusion of women and minorities as subjects in clinical research since 1993) and by the publishers of research, such as *Circulation* (the journal of the American Heart Association) and the *Journal of the American College of Cardiology*. The latter requires authors to "provide gender-specific data, when appropriate, in describing outcomes of epidemiologic analyses or clinical trials" or "specifically state that no gender-based differences were present".

In the European Union, Swedish and German funding bodies have long stipulated that researchers need to address the gender dimension in their research proposals and that gender aspects of research should be considered in evaluation. New hard-hitting Spanish legislation for universities is designed to "promote the inclusion of gender as a cross-cutting category in science, technology and innovation", including "the definition of the priorities of scientific and technological research, research problems, theoretical and explanatory frameworks, methods, collection and interpretation of data, findings, applications and technological developments, and proposals for future studies".

The 15 members of the Research Leaders Panel from across the European Union, facilitated by genSET, an EC-funded UK-based organisation, have made a commitment to address this issue in their own institutions. The group includes a university chancellor, a rector, vice-presidents of companies in research and development, and deputy editors of science journals, amongst others. It has recommended that other leaders need to 'buy into' the importance of the gender dimension in research (genSET 2010).

The European Commission's Directorate-General for Research and Innovation is concerned about the international competitiveness of research in the European Union, and has just published a document calling for significant structural changes in research institutions in order to enhance "excellence, gender equality and efficiency" (Sanchez de Madariaga et al, 2011). Following the disappointing lack of attention to gender in the Fifth Framework Programme on a voluntary basis, in the Sixth the Commission insisted that each funded project had a gender action plan to ensure the gender dimension was addressed. This failed, largely because of lack of gender expertise in the

research teams and among evaluators and monitors. The commission is currently considering ways to achieve better attention to the gender dimension in Horizon 2020.

There is a danger that the UK is getting left behind in recognising the importance of paying attention to gender in research. This may impede our ability to win funding from international bodies in the future. There is a growing recognition that 'something must be done' about the appalling statistics on women in science here, especially as the REF equality and diversity guidelines encourage institutions to provide evidence of a good research environment through, for example, achieving the Athena SWAN 'kitemark'. However, the issue of gender in research is less discussed.

Nevertheless, it should be noted that following a letter published in The Lancet on this issue by the genSET research leaders, all the Lancet journals (The Lancet, The Lancet Oncology, The Lancet Infectious Diseases, and The Lancet Neurology) have now agreed a policy on data analysis by sex. A statement will go into the 'information for authors' for all four journals: "We encourage researchers to enrol women and ethnic groups into clinical trials of all phases, and to plan to analyse data by sex and by race."

Implications for university strategy

What are the implications of this agenda for a university? In the first instance scientists need to be trained in methods of sex and gender analysis, in order to conduct better research but also in order to peer-review the work of others effectively. An audit of the curriculum across the university to ensure that the gender dimension is tackled appropriately is essential, to ensure new researchers are aware of its significance as a variable and to improve the education of all.

Secondly, existing researchers need to draw upon the expertise of gender specialists. Fortunately there are some sources on this. Yellow Window, a not-for-profit based in Belgium, is funded by the European Commission's Directorate-General for Research and Innovation to provide training and tools for researchers in the EU (Yellow Window 2009). The commission has also recently launched a [Gendered Innovations](#) website which demonstrates not simply that ignoring the gender dimension can produce poor research, but that it can also miss exciting innovations. The website has been prepared by Professor Londa Schiebinger of Stanford University and Professor Martina Schraudner of the Technical University of Berlin. Schiebinger's own [website](#) contains many examples of innovation derived from a gender-informed approach to research.

Thirdly, as research councils seek to control the supply of proposals, universities are increasingly introducing their own internal peer-review systems. It is important to ensure internal reviewers are trained in identifying weaknesses in proposals where gender has been ignored or not addressed properly. This will be valuable staff development if internal peer reviewers conduct work for the growing number of international bodies funding research that see this as a quality issue.

Finally, accounts of impact should bear in mind the gendered nature of society and its effect on the ways and means by which the research has an effect.

All this means investing in the development of gender experts, and integrating them and their expertise into research projects routinely. There are training needs here for researchers and research administrators. Gender is a research leadership issue.

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