

EDI Stream Proposal 2013

Generational Change and Gender in Science Research

Myths and Realities of Women Doing Science:

The inclusion of women scientists in a male scientific mainstream³

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Literature has expounded many hypotheses to explain lack representation of women in science, including individual factors involving women's personal choices and family commitments and work-life balance (NAS, 2006; European Commission, 2008; GenSET, 2011). Other explanations underline the institutional barriers that women have to surpass in order to achieve professional goals. Firstly, more complex circumstances tend to make women's careers slower and filled with more interruptions, instead of lineal (Powell & Mainero, 1992; Bagilhole & Goode, 2001; O'Neil & Bilimoria, 2005). Secondly, hostile male cultures in the workplace push

women towards certain knowledge areas and low positions in academia (Baylin, 2003; Kuijpers & Scheerens, 2006; Lyon & Woodward, 2004; Muñoz-Muñoz, 2005).

However, women have achieved some advancement in almost every field of knowledge which introduce new candidates and different point of view in science. Feminist literature emphasises individual women's viewpoints introduce new style and contents in science (Longino, 1990; Schiebinger, 2001, 2008). Haraway (1988, 1991) claims that women produce 'situated knowledge', Gilligan (1982) says that women researchers have a 'different voice' and Harding (1991, 1998) defends their 'strong objectivity'. As social actors, women are situated in a cultural background that apparently modifies the male-predominated codes of the scientific community. And historical evidence correlates female fieldwork with new paradigms and methodologies, for instance, in anthropology and biology (Haraway, 1988; Etzkowitz, Kemelgor, Neuschatz, Uzzi & Alonzo, 1994).

Thus, a question emerges from these arguments: are women developing different careers than the standard career track or, on the contrary, do they follow the same strategy delimited by the scientific culture? This work attempts to discover to what extent the influence of a scientific community outlines the research activity of their members and, hence, their careers.

We compare women's strategies and opinions about their research activity in the group in which they are involved. To accomplish this objective, we focus on the results of the questionnaire conducted in 2010 with the Andalusian research community. The administration of the survey was based on the scientific database of the Andalusian research community, which is composed by 23,500 researchers.

The survey consisted of four sections. Firstly, the characterisation of the researchers' profiles; secondly, the composition of the research team; thirdly, the description of professional activities developed by the researchers, including scientific productivity, use of working hours, funds received, external collaborations, membership in professional networks and, finally, scientists' opinion on their research outcomes. All questions were closed, except the subjective questions which were designed using the Likert scale (1 being the lowest and 5 the highest degree of importance). The final response of the survey was 22.5%, where 38.6% were women. 18.5% of respondents were leaders of research teams.

The global results of this study show that women's strategies in research are quite similar to their male counterparts and they try to follow similar strategies. Despite that, women have particular features that highlight several significant differences. These include women's divergent positions in scientific organisations and their different voice due to their social role. For example, despite the unequal distribution of scientific knowledge, women are equally interested in doing any type of research, except for developing technical projects. Refining our analysis, we found that women are more interested in social innovation than developing technical solutions, just like feminist literature has pointed out (Longino, 1990; Schiebinger, 2001, 2008). Topics related to improvement of human conditions are more positively valued by women because they are very likely to have the end goal of promoting a social impact.

There are also differences with respect to working styles, how they spend their workdays and which activities they prioritise. This suggests that there are biases on women's standard career progression which very likely influence their slow progression (Bagilhole & Goode, 2001; Krefting, 2003). Our results confirm that women spend more time doing a single task, whereas

men distribute their workday by multitasking. Furthermore, women always spend a higher percentage of time doing teaching, research, administrative and management tasks. These results do not support women's low positions in their careers. However, if we consider tasks such as thesis supervision, which are usually related to seniority, women are scarcely involved. These data reveal women involved in the daily life of the scientific community, keeping up with their male colleagues, developing similar strategies to reach top positions, but penalised by the scientific community.