The world of science has long been a domain of men, and while many disciplines are still dominated by men, some of them, such as biology, have attracted many women during the past decades. However, biology has also received a lot of negative attention from feminists, including female biologists (Holmes and Hitchcock, 1997). Special targets of criticism have been the behavioral and evolutionary biology, which are focusing on the evolution of mating systems and sex differences in animal behavior, including humans (e.g. Hrdy, 1986). It is argued that the overrepresentation of male scientists and a male dominated and competitive culture are accountable for the historical emphasis on dominance, aggression and mating success of male animals (Ah-King, 2012). It has also been suggested that female researchers more likely than male to choose study organisms that they can relate to personally, and to study cooperative and nurturing behaviors (Holmes and Hitchcock, 1997). Holmes and Hitchcock (1997) investigated the association of study animal taxon and gender of first authors of abstracts at Animal Behavior Society meetings. They predicted that social gender roles would be reflected in differences in choice of study organism, among others, between men and women. Holmes and Hitchcock found significant gender differences in type of animal studied, most of which was due to an overrepresentation of female first authors who studied mammals, supporting their hypothesis. They also found that men were more likely than women to study fish, amphibians, and insects.

In this project I investigated whether these research preferences also can be observed in the field of population genetics. Are female researchers more likely than male to select a study organism that they can relate to despite different working routines in population genetics, with the focus on the population level rather than on specific individuals? I conducted a search on ISI Web of Knowledge (search term: population genetics, search refinement (research areas): genetics heredity, sorted after relevance) and examined 100 articles for which I could identify the gender of the first author by their first name or names.

I found no significant difference in number of male (58) and female (42) first authors in the sample. Overall, the most popular study organisms among both men and women were plants and mammals, constituting 26 and 27% of the articles respectively. I did not find any significant gender differences in relation to study organism preferences, although there might be a trend towards women being more likely than men to choose plants as study organisms. Men, on the other hand, appear more likely than women to choose fish, amphibians, and insects, supporting the results of Holmes and Hitchcock (1997).
The preference for plants among female researchers does not support the hypothesis that women prefer subjects they can relate to. However, the conduction of a study differs greatly between animal behavior science and population genetics, the latter usually including destructive sampling, which means killing the animal in order to acquire genetic information (unless it is small endangered populations or large animals). If women in general are able to empathize with (Morell, 1993) and bond to their subjects more easily than men, it could be argued that women would avoid situations involving killing their study animals. A large portion of articles by both male and female first authors were focusing on mammals, a majority of which were on human genetics. Many studies on mammals and all human studies use non-destructive sampling and could thus attract female researchers. In their study, Holmes and Hitchcock (1997) discuss that investigations of this kind could be biased by the scientific methods used. They argue that the statistical methods are designed to detect differences, but they do not account for the complexity gender questions may have, meaning that the results are too simplified and can be very far from reality. It is hard to extract the cause of preferential patterns such as those found by Holmes and Hitchcock (1997), as well as of other gender differences that has been reported. Is it exclusively biological or exclusively cultural? In Western society, girls are generally raised to assume nurturing, and nonaggressive roles, despite the growing awareness of gender biases (e.g. Lytton and Romney, 1991). However, men and women do differ biologically as well (e.g. hormonally and how the brain is used; lectures at Gender and biological research course) and neither nature nor nurture can be excluded from the equation.
References


