Science goes to Hollywood: students’ choices and the impact of science fiction

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In the international context, several studies have attempted to understand the reasons why young people choose scientific degrees. Kotte states that their attitude towards science generally develops between 10 and 14 years old.¹

Gender studies focused on the relationship between science and the young present key elements for analysing young attitudes and behaviours, especially in the transition phase between secondary and tertiary education.² With regard to that, it is important to consider the social as well as individual context for young people, by distinguishing at least two main dimensions: a) opportunities and first hurdles; b) socially constructed beliefs and the social representation of science.

The first dimension includes both the student’s family and socio-economic context. The family, the school and the other places where the socialising process develops are all influential in shaping their identity and therefore in defining their individual choices. The family environment is a *milieu* which can encourage opportunities/hurdles in choosing a school curriculum; likewise, school is the place where they live. If family provides patterns which foster or hinder particular experiences, such as undertaking a certain study course and acquiring gender stereotypes, school provides a *network* of opportunities which allows students to have access to or to be excluded from specific social groups or future job careers.

The second dimension referred to is the set of social images, beliefs and representations about science and technology, which are learnt from the social contexts one belongs to. The influence exerted by the media in their different guises contributes to stretch scientific imagination. These mechanisms play an important role in shaping the individual’s opinions as well as choices.

Some aspects of the media influence were studied within the Iris project (Interest and Recruitment in Science), an international research project promoted by the European Union under the Seventh Framework Programme, addressing the challenge that few young people (women in particular) chose education and career in science³. The aim of the research project is to know the paths followed by young people to approach science at the university with special attention to gender differences. The project, coordinated by the University of Oslo, involves five countries: Denmark, Italy, Norway, United Kingdom and Slovenia. We will now analyse some impacts of the mass media from the Iris data, which, together with the information conveyed by social networks, contributes to the building of social representations young people have of different disciplines and, thus, influences their academic choices.

There are numerous media contents that can, in a direct and indirect way, influence the choice of study of boys and girls. For both, in the first place there are the books and popular science magazines; television broadcasts of popular science have influence especially on males and fiction film or television science are preferred by females.

In recent years science fiction has been a popular genre and some series have been recognised internationally as the most viewed, e.g. CSI, NCIS, Numbers and others. We can take into consideration the narratives of two of these series, CSI and NCIS, trying to connect their message about roles and identity of scientists to the motivations proposed by students in the Iris project for the choice of a scientific degree.

The narratives of CSI and NCIS: roles, gender and research questions

CSI squad has a family structure: Catherine Willows and Gil Grissom are mother and father of the team. Catherine is a single mother, an ex-dancer who pursued a bachelor of science degree in medical technology. She is very interested in scientific evidence from an holistic point of view, her main question studying a case is “why?” with a specific curiosity and interest on the context in which the crime took place.

Gil Grissom is an entomologist very strongly based on scientific knowledge. He is very familiar with experiments, he likes to test hypotheses using experimental methods and is very focused on evidence. His main interest is on “who” and “how much” somebody profits from a crime.

What is very important for our comparison of students’ views is the different approach to problem-solving of the two characters. The two approaches are very similar to the preferences expressed by students where females pay particular attention to the meaning of the scientific activities and males to technical aspects.

The NCIS force has a patriarchal structure: Leroy Jethro Gibbs is the father and the boss and there is a smart young forensic scientist, Abby Sciuto. Narratives of Abby propose particular values about science activities. She has a strong passion for science and she is always fascinating by the discovery of new features regarding the cases.

Leroy Jethro Gibbs is a typical marine, a white male devoted to a strong discipline. He stresses the importance of getting to the point, to be clear and faster. Frequently they are engaged in a lively debate where Abby demonstrates passion and scientific rigour while maintaining her originality and trying to fight the stereotype of a submissive woman.

In these particular science fiction messages we can see some similarities with male and female motivations for science studies. In a sense it seems that this fiction reinforces some attitudes expressed by the students. First of all they transmit intrinsic value where terms as passion and pleasure underline the emotional sphere but also the rational attraction for the subjects and their practical application. Here we can find a difference between males and females, where female are very interested in the whole knowledge and meaning of scientific disciplines.

In the Italian qualitative data of the Iris project, we find frequently references to aspirations and ambitions from females that indicate an aspiration for a particular role in the society. This concerns career objectives and lifestyle, but also the social role the students intended
to perform. Males are more attracted and motivated by practical and laboratories activities, especially for gaining a distinguished status. Females offered reasons which more closely concerned mankind, the environment, and nature, with a specific connotation of “taking care of others”. While male students mentioned issues regarding the exploitation of science and technology for the betterment and development of society, which were often described in general and abstract terms, female students mentioned the relevance of science’s impact on everyday life and the importance of working in groups when doing research.

**Conclusion**

Young people, with particular differences between males and females, are attracted by television series that use science and technology. These TV shows can help to preserve and transmit gender stereotypes, but they can also propose different roles for male and female scientists, offering new ways of defining identity and then also the possibility to implement the motivations of young people wishing to follow careers in scientific study and research work.

The use of forensic science in solving crimes involving the audience offers certainties that are sometimes beyond the real possibilities of the investigation. The presence of scientists in the investigation, however, brings science to the general public, particularly young people, making it more attractive and interesting, offering new opportunities and possible career options.