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# Gender Issues in Attracting Students to Science, Technology and Engineering higher Education

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The attractiveness of science, technology, engineering and mathematics (STEM) has received much attention in recent years since to remain competitive in the global economy the education system must provide a talented pool of STEM professionals [1]. Therefore, recruiting students, especially women, to STEM programmes is seen as a problem to overcome in most developed countries [2].

As an institutional member of the ATTRACT “Attracting students to science, technology and engineering education” [3], Instituto Superior Técnico (IST) carried out questionnaires addressed to secondary and IST freshmen students in order to analyse students’ background and engineering perceptions.

Although women represent the majority of the graduates in almost all Organisation for Economic Co-operation and Development (OECD) countries, the proportion of women in engineering is still lower than that of men [4]. In general, STEM fields are more likely to be chosen by men, even though in recent years girls, in many countries, have surpassed boys in science proficiency [5].

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Engineering perceptions and how they differ between female and male students have been widely documented through the literature (see for example [6]). However, research rarely focuses on how students perceive engineering compared with other professions and how does it impact male and female perceptions. In light of the foregoing, this paper provides a gender comparison in terms of the perceived difficulty of the profession, effort required to undertake the programme, pay level and employers' recognition, since the understanding of how genders diverge may shed some light on new approaches to attract students for STEM programmes, especially female students.

Females tend to be more concerned about the consequences that may derive from their decision. Therefore, they look for more information, and dedicate more time to the decision process. Male, on the contrary, assign more importance to the analysis of the information required to carry out the decision, being more assertive and objective [7]. This might explain the differences found between male and female programme/institution choices.

According to [8], female students believe that they have to prove their skills to be approved, more strongly than men in STEM areas. This may be the reason why female students believe that engineering is neither a very well-paid profession, nor a recognized occupation among employers, and, therefore hesitating to choose it as a career. Hence, the path to balance the gender differences in engineering education may pass through clarifying these issues for young female potential candidates. ■

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