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Understanding why women don’t choose engineering degrees

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Abstract

Despite the continuous efforts of governments and universities to avoid the underrepresentation of women entering engineering degrees, the trend has not reverted, and this is a general fact all over the world. This fact goes against the tendency of a growing ratio of women in tertiary education, so causes must be investigated. This research examines two main questions: Is it possible to break the invisible barriers that prevent girls from entering in engineering degrees by means of an engineering project or activity? And are there important misconceptions about the role of women in engineering professions and about engineering itself among high school girls? An extensive survey has been carried out between three groups of students: students of the last years of high school (834), students of the first year of engineering degrees (319), and students of the first year of sciences degrees (209). A set of visits to the high schools was developed and a contest of engineering projects was carried out too. The results show that there are important misconceptions in the knowledge that high school students have about engineering degrees and engineering. The visits and the project contest had a good impact that encouraged girls to take engineering activities in their curricula. The main finding is that even though girls see engineering professions as very well valued, they are convinced that engineering is not a profession for women, which suggests that there are educational barriers acquired during earlier stages of their lives.

AQ1

AQ2

AQ3

Keywords

Women
Engineering recruitment
Outreach
Motivation

Introduction

The number of students enrolling in university degrees, and completing their tertiary education level studies, is continuously rising year by year in the European Union (EU), and this pattern is more significant for women (from 24.5% in 2002 to 42.3% in 2014) than for men (22.6–33.6%) (Eurostat Press Office 2015). It is a proven fact that all over the world there is a general preference for women to study humanities and social sciences instead of engineering (Eurostat Press Office 2016) (Fig. 1), this includes Spain (Fig. 2). On average, across the Organization for Economic Co-operation and Development (OECD) countries, 75% of the degrees awarded in the field of health and welfare went to women; in contrast, in most countries, fewer than 30% of all graduates in the fields of engineering, manufacturing and construction were women (OECD 2012). In addition, in 2016, among STEM occupations —science, technology, engineering, and mathematics—women accounted for smaller shares of employment in the USA and indeed, 42.2% of full-time wage and salary workers in life, physical, and social science occupations and 25.2% in computer and mathematical occupations were associated with women, while in architecture and engineering occupations, only 14.0% of full-time wage and salary workers were women (US Department of Labor 2016). Equally, men are more likely to graduate in science and technology fields than women in the EU. For example, in 2015, the EU-28 registered a ratio of 24.9 male tertiary graduates in science and technology per 1000 men, while the same ratio among women was only 13.1 per 1000. This gender gap was observed in all EU Member States in 2015, ranging from 2.2 per 1000 in Luxembourg to 27.5 per 1000 in Ireland (Eurostat 2016).

Fig. 1

Distribution of male and female students by field of knowledge in the EU

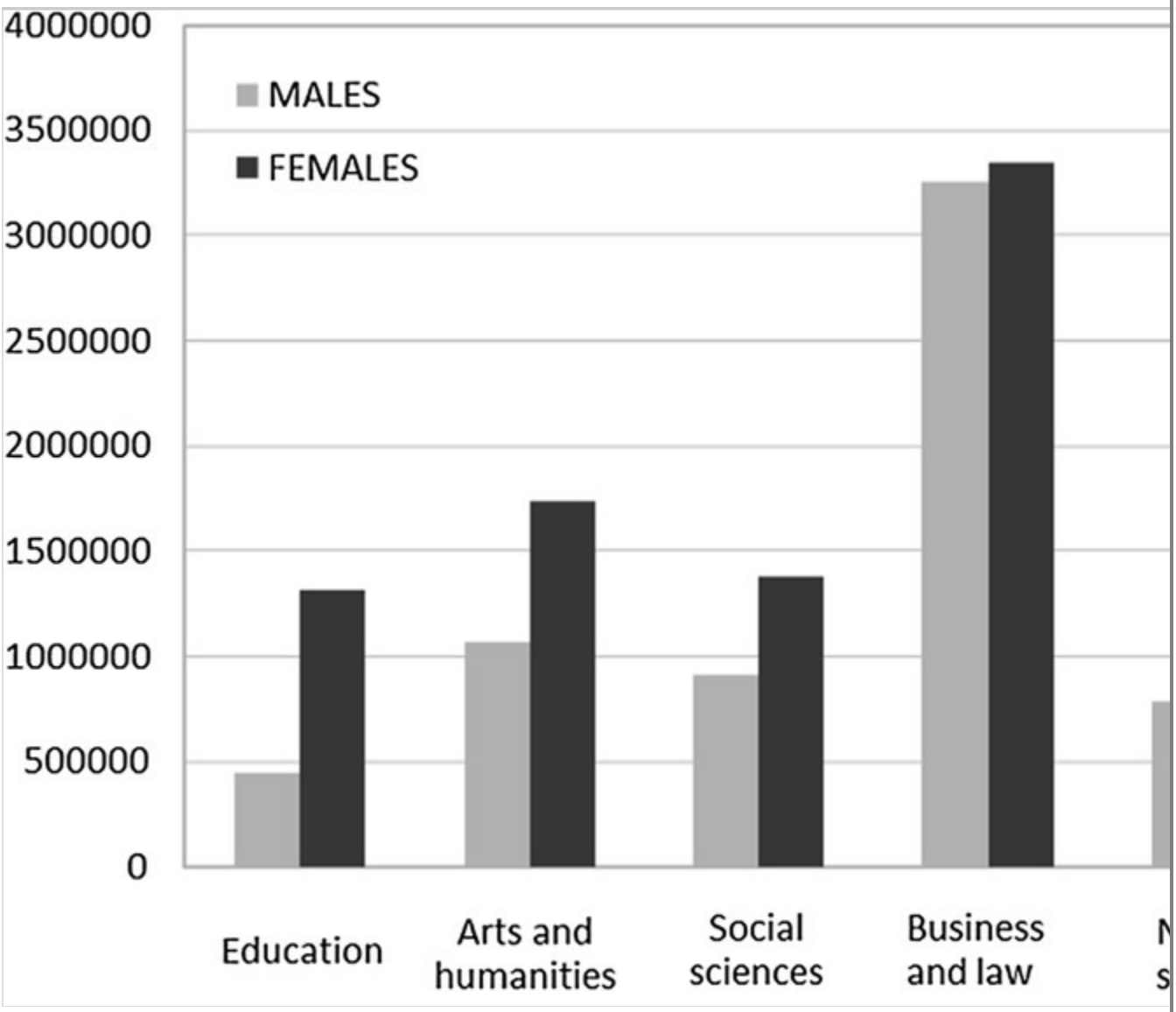
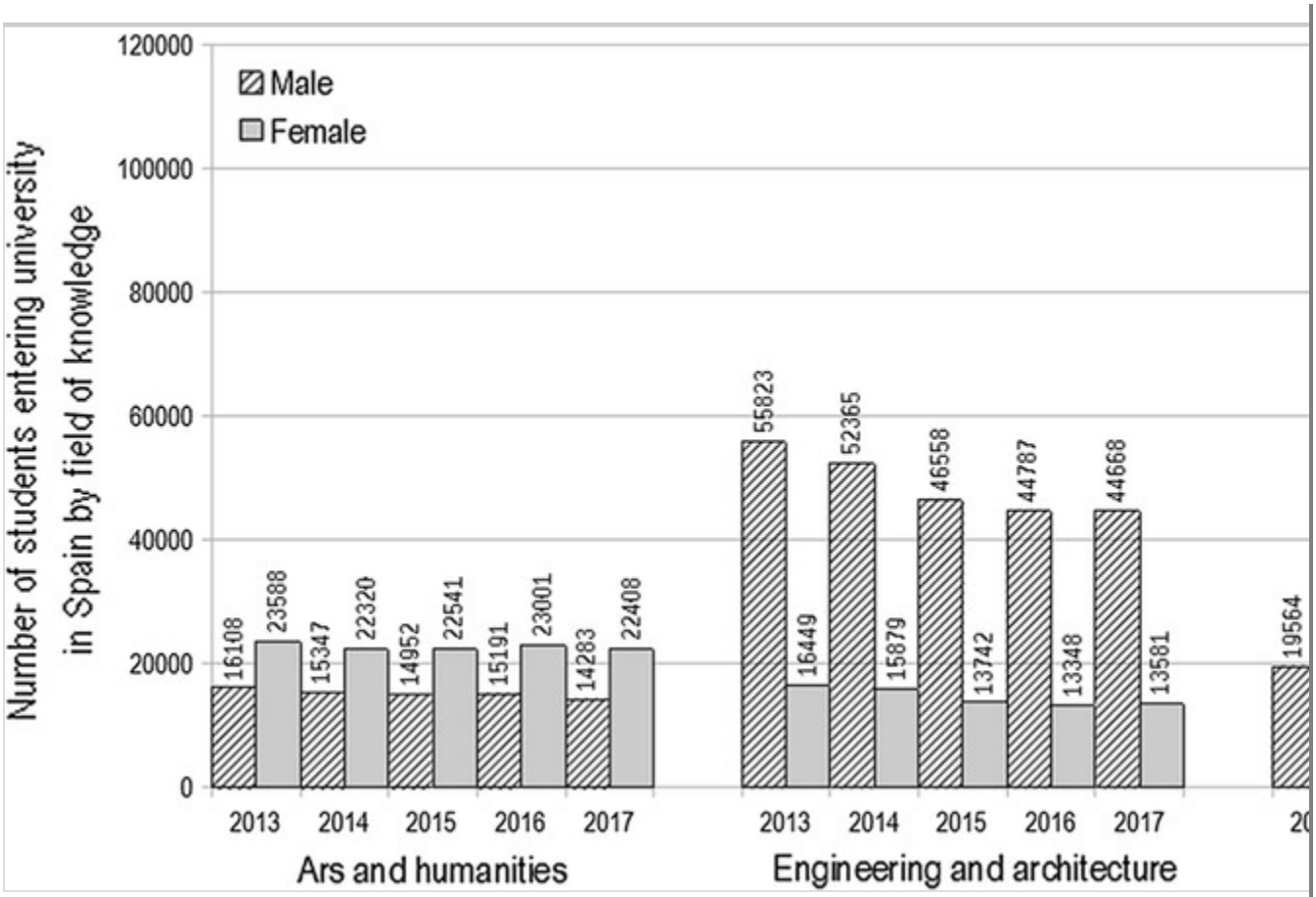


Fig. 2

Number of students entering Spanish universities by gender from 2013 to 2017



AQ4

Background

It is a striking fact that girls report higher status expectations than boys, which could be understood as the beginning of the end of gender inequalities in the labor market, but a careful analysis advises to reject this hypothesis since there are significant segregation rates when a horizontal view of jobs chosen by women is taken (Sikora and Pokropek 2011). A case of this segregation is strongly found in universities' highest management and decision-making positions all over the EU where, although 59% of graduates are women, they account for only 18% of full professors. This sense of inequality has been called the glass ceiling, defined as invisible barriers based on educational reasons or prejudices that prevent women from taking the highest positions (European Parliament 2015).

This gender gap begins even before boys and girls decide to enroll their first university degree. As a matter of fact, 3 out of 4 students entering engineering degrees, and on 4 out of 5 entering ICT degrees in OECD countries are men

(OECD 2017) even though women performance in PISA science test was better than men's. It is also remarkable that 60% of women leaving engineering jobs, do it due to pay and promotion conditions (Hunt 2016). However, as there are no gender gaps in this sense (Hunt 2010) it could be assumed that there some sort of discrimination by managers and co-workers (Hosaka 2014) and a lack of specific mentoring for women in engineering (Bhatia and Amati 2010).

Seeking for possible reasons why women don't choose STEM careers, (Diekman et al. 2010; Stout et al. 2016) it can be found that there is a wrong perception that these kinds of occupations are not so useful to communal goals, which is an important consideration for women when they have to choose their field of work. That's why understanding how to give STEM fields the sense of communal utility, could be a very important starting point to reverse the situation. In the same way, Martínez et al. (2010) established, as a possible reason why women don't choose engineering degrees, that these jobs are socially seen as more appropriate for men than for women, so they proposed to adapt engineering degrees curricula in a way that allows everyone, men or women, to find a way to develop their personal skills and giving an enriching contribution to the social role of engineering jobs. It seems then, that there are some "image distortions" in the picture that women have about engineering degrees and engineering jobs. In surveys taken by engineering degree female students (Ferrando et al. 2012; Powell et al. 2012), it was pointed out that the opportunity to reach good positions is an important reason for choosing engineering degrees. However, they admit that they are going against the current in some way, as they accept that engineering professions are made for men. It is also interesting to note the fact that they feel more support from the family, than that given to men, when they decide to enter an engineering degree (Inda et al. 2013). In addition, (Bruning et al. 2015), it was found that every woman has a personal opinion about whether to choose or not choose an engineering career. For example, some of them could choose engineering professions "despite being a woman"; others don't choose it even though they are self-confident enough to do it, but they find more motivation in other fields. Finally, others don't choose it because they see engineering degrees as too difficult and risky for their professional expectations. All these opinions reinforce the idea that there is an important lack of knowledge about engineering degrees and engineering professions in the female population.

Nevertheless, all the reasons why women don't choose engineering not only

depend on the students' perceptions, they also depend on the teachers. In this sense Blosser (2017) pointed out that faculty tend to classify disciplines as feminine or masculine. Agricultural, biological, biomedical, and environmental engineering seem to be socially relevant (Bossart and Bharti 2018), which are supposed to attract female students, while other degrees, classified as dirty or more technical, are supposed to be less appealing for women. As a result, the language used by teachers to describe their disciplines can have a negative influence in the cultural knowledge about gender and professional careers and prevent women's enrollment in engineering.

In this social context, it is necessary to establish some strategies to make engineering majors more attractive to women. It is important here that university authorities are very careful in the design of outreach campaigns and avoid falling into cultural gender stereotypes that could be counterproductive (Blosser 2015). One way to approach the problem could be giving a positive message such as "engineering is interesting work that allows curious people to convert problems into real solutions" and avoiding any mention of gender differences. Other authors (Brandt 2015; Diekman et al. 2015) pointed out that any effort to recruit and maintain women in STEM majors should consider the reinforcement of self-confidence in the skills needed to obtain a successful engineering career and the positive view about the contribution that they can make to their social environment.

With this in mind, involving high school girls in engineering related projects could prove to be useful to increase the chances that they choose engineering majors in the future (Barta and Brinkman 2014). This cannot be done without the aid of university teachers, who should take into consideration the ways of learning that women prefer or that make them feel more comfortable, for example working in small groups, presentations, and discussions. University authorities should also be concerned about eliminating perceived barriers in curriculum design (Tarnai-Lokhorst 2015) and should organize special supporting programs for women enrolling in STEM degrees (Bannikova et al. 2018).

While there are many studies investigating the reasons why women don't choose engineering majors, this information is still dispersed and not conclusive. It appears that there are several misconceptions in the way that women view

engineering degrees and engineering professions. This includes a generalized opinion between girls that engineering is made for men and incorrect attitudes amongst university teachers about the way they should plan their subjects to make the syllabus attractive for women. In context, an outreach program focused on high school girls has been carried out by a team of teachers of different subjects of engineering degrees in Córdoba University (Spain). Furthermore, an extensive survey has been carried out to try to clarify the reasons why women don't choose engineering majors.

Methods

Research questions

We have tried to address the following research questions, **RQ1**: Is it possible to break the invisible barriers that prevent girls from entering engineering degrees, by means of an engineering project or activity? And **RQ2**: Are there important misconceptions about the role of women in engineering professions and about engineering itself amongst high school girls? To answer these questions, a double strategy has been carried out with girls and boys during the last years of high school. In the first phase, a set of visits to high schools was carried out by university teachers. In these visits the role of women in engineering professions, with many examples of successful women engineers, was explained to girls. In the second phase, a contest of engineering projects was organised, these projects had to be developed by teams of girls during classrooms hours, with the help of their teachers and without disturbing the normal development of the planned work. In parallel, an extensive survey was carried out, among girls and boys of last year of high school and first year of university, to determine whether girls believed there were apparent barriers preventing them from engineering degrees, such as a lack of self-confidence and gender differences of perception about engineering professions.

Participants

The two main phases of the study were carried out with students from the last year of high school, while the survey was completed by three groups of students: (a) the students from the last year of high school; (b) students from the first year of engineering; (c) students from the first year of science degrees. The reason to choose these three group of students was to determine whether there were

differences between the ones who had to choose their university degrees for next year, the students who already had chosen engineering degrees, and the students who had discarded engineering degrees but had chosen degrees in the field of science. The survey also wished to ascertain whether there were differences between men and women.

The group of students from the last year of high school was composed of a total of 834 students from 4 different high schools (451 male and 383 female); the group of students from the first year of engineering degrees (electrical engineering, industrial electronics engineering, mechanical engineering and software engineering) was made up of 319 students (295 male and 24 female); and the group of sciences degrees (biochemistry, biology, chemistry, environmental sciences, and physics) had 209 students (95 male and 114 female) with a total of 1362 students. It was particularly striking to note the low number of females in the engineering degrees students group.

The projects' contest

The projects' contest was carried out at the end of the year. To participate, it was mandatory to be a member of a group formed by 2–4 girls, from any of the high schools participating in the whole project. Every group had to submit a proposal specifying the content and scope of their project. These projects could be either directly accepted by university teachers or sent back to the participants in order to do some improvements and to adapt the difficulty to the correct academic level. Finally, a presentation session was carried out at the beginning of the month of May, in which the girls brought their developments (many of them with a prototype) and the jury selected the winner group. Diplomas were given to winners, finalists and participants. The winning group received a symbolic monetary reward.

The survey

The survey was conducted in class hours in the second semester of the year with the authorization from the appropriate high schools and university administrators. After a brief presentation in which the researchers described the purpose of the study, students were invited to fill in the questionnaire. It consisted of a total of 28 questions, 15 about the vision that students have about what engineers do at work and 13 about the perceptions that students have about

engineering professions (Table 1).

Table 1

Survey about information and perceptions of students about engineering professions

	Select true or false for each of the following statements	**T**	**F**
Q0	I'm interested in entering an engineering degree		
	The following tasks are part of the jobs that engineers usually do		
Q1	Calculate the structure of an industrial warehouse		
Q2	Design a machine and plan its construction, taking into account legal regulations, materials and manufacturing costs		
Q3	Weld metal parts		
Q4	Design devices for medical purposes		
Q5	Change defective parts in a car		
Q6	Organize the execution of a power line		
Q7	Install the elements of an electrical panel		
Q8	Design an electronic device		
Q9	Write the code of a computer program		
Q10	Draw the plans of a project		
Q11	Design the engines of the cars		
Q12	Design videogames		
Q13	The engineer is responsible for improving the productivity and quality of a company's products		
Q14	The engineer is able to prevent, face and reduce damages to the environment		
Q15	The engineer can work as a teacher and researcher		
	About the engineering labor environment		
Q16	You need to have a strong character to lead a team of low-qualified personnel		
Q17	Engineering is a high-risk profession		
Q18	The profession of engineer hardly leaves free time		
Q19	Engineering is a very well-paid profession		

	Select true or false for each of the following statements	T	F
Q20	Engineering is a well-valued profession by society		
Q21	Management positions in companies are rarely occupied by engineers		
Q22	Entrepreneurs prefer to hire men before women		
Q23	Engineers spend most of the time designing projects		
Q24	Engineering professions have no unemployment		
Q25	Engineers usually work with teams of people of different professions and gender		
Q26	Engineering is a more appropriate profession for men than for women		
Q27	The salary of men is equal to that of women		
Q28	There are the same number of women than men in managerial positions		

Results and discussion

After the deadline to submit the projects proposals, a total of 60 participants, forming 19 groups, complete the contest. The subjects addressed by the projects included a mobile phone battery charger using the mechanical energy from steps installed in high heel's shoes; a meteorological station measuring temperature, humidity, and rainfall; a wardrobe controlled from the mobile phone by Bluetooth; a forge driven by hydraulic power; a toy horse with movement "Theo Jansen style"; among others as for example lighthouses, Ferris wheels, hydraulic booms, and carousels. The session of presentations took place in the government building of the University in the presence of the Rector, who handed over the awards. This event had an important echo in the media, appearing in several of the local newspapers and on regional television. Moreover, given the initial success of the contest, two more editions have been developed with similar participation and projects' level.

The general results of the survey are shown in Table 2. As it was expected, the ratio between boys and girls who are interested in entering an engineering degree (Q0) immediately attracts the attention in favor of boys. After a χ^2 test, a significative difference was found ($\alpha = 0.05$, $df = 2$, $\chi^2 = 37.65$, p value = 6.67E−09).

Table 2

General results of the survey about perceptions and opinions about engineering professions

	Male high school students; n = 451			**Female high school students; n = 383**			**Male sciences students; n = 95**			**Fem stu**
	Y (%)	**N (%)**	**DK/DA (%)**	**Y (%)**	**N (%)**	**DK/DA (%)**	**Y (%)**	**N (%)**	**DK/DA (%)**	**Y (%)**
Q0	**23.95**	**71.62**	**4.43**	**8.09**	**87.21**	**4.70**				
Q1	82.26	17.29	0.44	76.76	22.19	1.04	81.05	18.95	0.00	78.0
Q2	89.36	10.42	0.22	86.42	13.05	0.52	88.42	10.53	1.05	94.7
Q3	30.16	69.40	0.44	27.68	71.80	0.52	22.11	75.79	2.11	16.6
Q4	**62.31**	**37.47**	**0.22**	**49.61**	**49.61**	**0.78**	**85.26**	**14.74**	**0.00**	**93.8**
Q5	29.71	70.29	0.00	24.80	74.41	0.78	22.11	77.89	0.00	22.8
Q6	**68.51**	**31.04**	**0.44**	**59.27**	**39.16**	**1.57**	78.95	21.05	0.00	82.4
Q7	37.25	62.08	0.67	34.20	64.49	1.31	38.95	61.05	0.00	34.2
Q8	83.59	15.96	0.44	77.28	22.45	0.26	95.79	4.21	0.00	96.4
Q9	**62.31**	**37.47**	**0.22**	**54.05**	**45.43**	**0.52**	81.05	17.89	1.05	87.7
Q10	76.72	22.84	0.44	76.24	22.72	1.04	63.16	36.84	0.00	57.8
Q11	**82.26**	**17.29**	**0.44**	**68.15**	**31.33**	**0.52**	93.68	6.32	0.00	96.4
Q12	**54.99**	**44.35**	**0.67**	**42.30**	**57.18**	**0.52**	68.42	30.53	1.05	74.5
Q13	46.34	52.99	0.67	49.87	49.61	0.52	57.89	41.05	1.05	57.0
Q14	51.44	48.12	0.44	46.74	51.96	1.31	65.26	34.74	0.00	68.4
Q15	75.17	24.61	0.22	68.67	30.55	0.78	96.84	3.16	0.00	95.6
Q16	68.96	30.60	0.44	65.80	32.90	1.31	65.26	32.63	2.11	66.6
Q17	28.60	70.95	0.44	28.98	69.71	1.31	21.05	78.95	0.00	21.9
Q18	51.66	47.89	0.44	47.78	50.91	1.31	60.00	38.95	1.05	37.7
Q19	84.70	15.30	0.00	86.42	13.05	0.52	69.47	30.53	0.00	70.1
Q20	**82.04**	**17.74**	**0.22**	**79.63**	**19.32**	**1.04**	85.26	14.74	0.00	88.6
Q21	**43.02**	**56.54**	**0.44**	**35.51**	**61.62**	**2.87**	43.16	56.84	0.00	31.5
Q22	52.11	46.78	1.11	66.58	32.38	1.04	72.63	26.32	1.05	77.1

	Male high school students; n = 451			Female high school students; n = 383			Male sciences students; n = 95			Fen stu
	Y (%)	**N (%)**	**DK/DA (%)**	**Y (%)**	**N (%)**	**DK/DA (%)**	**Y (%)**	**N (%)**	**DK/DA (%)**	**Y (%)**
Q23	**61.20**	**37.25**	**1.55**	**65.80**	**32.90**	**1.31**	61.05	37.89	1.05	44.7
Q24	**67.41**	**32.15**	**0.44**	**69.19**	**30.29**	**0.52**	55.79	44.21	0.00	54.3
Q25	**66.74**	**32.59**	**0.67**	**71.02**	**28.72**	**0.26**	77.89	21.05	1.05	73.6
Q26	**33.92**	**65.63**	**0.44**	**47.52**	**52.22**	**0.26**	41.05	58.95	0.00	36.8
Q27	**54.77**	**44.57**	**0.67**	**51.17**	**48.56**	**0.26**	34.74	65.26	0.00	35.0
Q28	**27.05**	**72.06**	**0.89**	**25.33**	**74.41**	**0.26**	12.63	87.37	0.00	4.39

AQ5

In the group of questions related to the knowledge that students show about what engineers do in their jobs (Q1 to Q15), there were no significant differences between answers by gender in the group of engineering students. So, it is proved that engineering students (females as much as males) have enough information on what the responsibilities of the engineers are, even in the first course. Similar results were found in the sciences students. No significant differences were observed by gender except for question Q4 related to the design of medical devices, in which women seemed to be better informed than men ($\alpha = 0.05$, $df = 1$, $\chi^2 = 4.23$, p value = 3.96E−02). Nevertheless, the knowledge shown by the high schools' students is very different from boys to girls. They showed significant differences in questions Q4 (as well as the sciences students), Q6, Q9, Q11, and Q12 (Table 3). Even more, differences between the groups of engineering students and high schools' students were clearly observed in all the questions except in Q5; while between engineering and sciences group, differences were only found in Q1, Q10, and Q13. Between sciences and high schools, differences appeared in all the questions except in five of them (Q1, Q2, Q5, Q7, and Q13). On the basis of these results it could be concluded that the engineering students could be considered the best-informed group, followed by the sciences students' group and finally the high school students would be the ones with less information, specially the girls.

Table 3

Questions with significant differences between high school boys and girls ($\alpha = 0.05$; $df = 2$)

Question	χ^2	*p* value
Engineering tasks		
Q4	14.36	7.61E−04
Q6	9.41	9.06E−03
Q9	6.12	4.68E−02
Q11	22.66	1.20E−05
Q12	13.65	1.09E−03
Engineering labor environment		
Q20	199.13	5.75E−44
Q21	12.18	2.27E−03
Q23	14.58	6.80E−04
Q24	19.78	5.06E−05
Q25	9.18	1.01E−02
Q26	45.54	1.29E−10
Q27	30.07	2.95E−07
Q28	112.81	3.18E−25

On the other hand, neither engineering students, nor sciences students show gender differences in their perception about engineering labor environment. Nevertheless, high schools students, showed significant differences between girls and boys in 8 of the 13 questions (Table 3). The answers of the engineering students' group compared to the sciences student's group, did not show differences, however discrepancy between the opinions of high schools' students and engineering and sciences groups were found in 10 of the 13 questions (Q19 to Q28). Once again, the high school students' group was the least well informed, especially the girls.

The answers given by girls and boys to the question "Engineering is a more

appropriate profession for men than for women" were especially surprising. Even though it is a minority answer from boys and girls, the ratio of girls that are convinced that engineering is a male profession is still 48% compared to 34% of boys. This is, in our understanding, the most important misconception and probably the cause of everything else. As a matter of fact, when girls are asked in personal interviews for the reasons why they believe there is such a rejection by women of engineering professions, they generally answer that engineering is not a profession for women; but when asked about the reasons for this belief, they don't know how to respond. These facts reinforce the general idea that there are gender educational barriers that maybe inherited from families and lower educational levels. And probably also from the whole society in general, if not in a clear and explicit way, but in an implicit and subtle manner.

Another surprising factor is the perception that boys and girls have about men and women salaries. Both boys and girls think that there is a real salary gap between genders, and this belief is more deeply rooted amongst girls than boys. On the other hand, boys, as well as girls, think that engineering is a well-valued profession by society, even though there are significant differences between girls and boys in this concept too. This applies when the students are asked about the number of male and female occupying managerial positions. Here both, boys and specially girls, think that there aren't the same number of men than women in these positions, and this gap is even greater when they are asked for the number of engineers (men or women) they think that occupy managerial positions.

At last, with respect to the perception that boys and girls have about the labor market for engineering professions, both consider that there is a no unemployment for engineers and this opinion is even more generalized among girls than in boys.

Even though high schools' girls clearly manifest their lack of preference for engineering degrees, all the opinions expressed by girls seem to point to the idea that they think engineering professions are socially well-valued and that they have good labor market insertion (see Q20 and Q24 in Table 2). Also, there is a general sense that engineering professions are not appropriated for women (Q26), although for girls is harder to explain why. Finally, boys and girls agree on the facts that there is a real gender pay gap and that the highest positions are occupied mainly by men. Regarding the information that engineering, and

sciences students have about engineering professions, the survey didn't reveal gender differences, so it seems that university girls are, at least, as well informed as their male partners are, even though it is too late.

Conclusions and future research

Concerned about the low rate of women entering engineering degrees, a group of university teachers designed a set of activities in order to eliminate misconceptions about gender in engineering degrees and engineering careers. These activities consisted of a set of visits to high schools to explain the current role of women in engineering professions all over the world, including many examples of success engineer women; and a contest of engineering projects in collaboration and coordinately with high schools' teachers. Moreover, an extensive survey was carried out to measure gender differences of knowledge and perception about engineering between girls and boys.

Firstly, the explanations given during the visits and the presentation of the contest encouraged girls to participate and to take engineering activities into their high school curricula. The contest had a high participation rate and the projects presented were original and interesting; and the contest had an extensive echo in the media. These outcomes suggested that the contest should be repeated.

The first result to highlight was the great difference in the number of boys and girls who are considering entering engineering degrees, as was expected. The survey data indicated that both engineering students and sciences students were well informed enough about what engineers do in their jobs, while high school students showed an important lack of information which is more important for girls than for boys, where many significant differences were found. Similar differences were found in the set of questions related to engineering labor environment.

In general, the knowledge shown by high schools' girls, compared to that shown by boys, was poor, although the level of information is low amongst boys too, and there was an important sensation of a lack of belonging to engineering amongst the girls, even though they were not able to explain the reasons for this belief.

It is especially concerning the fact that even though girls see engineering

professions as socially valued, they are convinced that there is a significative pay gap between men and women, as well as important differences in the positions occupied by men and women.

In brief, it can be said that high school students are, in general, worse informed about what engineers do than engineering and sciences students; and that high school girls are worse informed than high school boys. Especially striking are the answers about electrical power lines, car engines, and electronic devices, which are supposed to be the classical engineering works, where girls showed to be worse informed than boys. Nevertheless, there is a question in which girls showed to be better informed than boys: the one about medical devices, showing that girls are more interested in jobs that allow them to do a direct contribution to their social environment.

With respect to the questions about the engineers' labor environment, the first surprising subject is that even though high school girls showed to be well informed, their perception about the value that the society gives to engineering professions is worse than boys one. Other striking questions, that tell us much about girls' intentions, are the fact that they see engineering as very well paid and with no unemployment, despite they have decided not to enter engineering degrees. But the most eye-catching question is the one that refers to the gender most associated with engineering professions, in which girls think that engineering is for men with 13% over boys' opinions.

Although the group of students group participating in the survey was numerous, all they were taken from Córdoba province and Córdoba University. But, as the result of the survey showed, this is not the weakest point of the research since it has been proved that the opinion of girls about engineering and engineers is very well-formed (against entering engineering degrees) in the last years of high school. So, in future research, the universe of students participating in the research should be expanded to near provinces and universities and, which is more important, they should be taken from lower courses.

Finally, regarding the two initial research questions, it has been proved that, with a correctly directed intervention on girls activities during the early years of education, is possible make them see that they are able to perform any task in every ambit, including science, engineering, and technology, despite that this

intervention requires a work almost personalized on every girl or little group of girls (RQ1). In the same way, the survey has shown important misconceptions in the group of high school girls (RQ2) which could be reverted changing the attitude of both, parents and educators, about the messages given to girls in first ages.

There is still much to be done. Girls reach their last years of secondary education with serious misconceptions about what engineering is and what engineers do, and it is probably too late to try to reverse the situation at such ages. It is necessary that society, in general, make a 180-degree turn in the messages given to girls at the earliest ages, and this is the responsibility of everyone: parents and educators must be concerned by these issues, but rulers must implement proactive measures to reverse the situation. These measures should be in the lines of breaking the stereotype that assertive and powerful leaders are better for organizations, modify time tables to allow the co-responsibility of fathers and mothers in the upbringing of children…, but above all, to promote a real change in the workplace gender culture.
AQ6

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