

Selecting the future: On the motivations of young students to choose Mechanical Engineering at FEUP

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Author Keywords

Undergraduate students, mechanical engineering, academic choices.

Type: Research Article

 Open Access

 Peer Reviewed

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Abstract

In the last years, the Integrated Master in Mechanical Engineering (MIEM) at FEUP revealed a very high capability for attracting young students. However, the true reasons that determine the interest of the students in the Mechanical Engineering cycle of studies (CS) are not well understood. This paper tries to shed light on this question. A survey was prepared and applied to the first year students enrolled on MIEM in 2020-2021. The responses were analyzed statistically and organized comprehensively. The results show that the opinions of others, the quality and availability of information, the versatility and employability rates of the CS, the quality of training and the reputation of the HEI/CS are crucial. The findings can be further explored by the FEUP/CS decision makers to delineate policies envisaging strengthening the ability of Mechanical Engineering to compete for the best potential candidates to higher education. Indeed, the higher education institutions are aware that they have to fight for students in the global recruitment market and be more proactive than they used in the past.

Introduction

Consumer decisions, including educational choices, are the output of complex and multifactorial processes, influenced by a wide range of factors. Information, advertising, quality perception, rewarding perspectives and opinions of others, just to cite a few, have an important role in decision making. The reasons that persuade young students to choose a higher education institution (HEI) and cycle of studies (CS) upon completing their secondary school have been the subject of ample research, motivated by the growing interest of the HEI and CS to compete for the best students ([Foskett and Hemsley-Brown 2002](#)). Nowadays, in their decision processes, the students seek information from various sources, namely institutional, promotional and even informal, and assess multiple alternatives based on their expected impact on future life ([Moogan and Baron 2003](#)). However, the multiple inputs they are faced with may also be negative and make decisions even more complex. Often, the difficulties increase due to the large offer of HEI/CS available in a global context. The inputs to the decision procedure include the reputation of the HEI/CS among employers, employment rates, financial rewarding, social status, personal satisfaction, approaches to teaching,

learning and assessment, experiences in and out of school, difficulty of the subjects, amount of work involved, ease of entry and external factors (e.g., family background, hobbies and influence from others), to mention a few (Foskett and Hemsley-Brown 2002). Different students may give distinct importance to different factors, depending on their socio-economic background, gender, nationality, personal perspectives, and others, which yields the understanding of the subject challenging.

Research in the U.S. suggested that the fundamental factors influencing the HEI choice change during school life, and that the most recent educational and career aspirations of the students, their socio-economic status, aptitude, parental encouragement, scholar attributes and financial issues are determinant (Nora and Cabrera 1992). Other results revealed the intellectual abilities, pragmatism, advice of others and social factors as decisive to the students' choices (Kinzie et al. 2004). Research in the U.K. indicated that the HEI choice is a rational, multi-factorial and a highly complex process, which can be influenced by budgetary, information, accessibility, academic achievement, and personal life and school experiences (Moogan and Baron 2003). Researchers from Scotland, found that the academic reputation is the most important attribute in the HEI choice, followed by the employment rates associated to the CS. Parents are the major "influencers", followed by friends, teachers, recruitment visitors and school advisors (Gibbons-Wood and Lange 1998). A fine line separates the influence of pressure exerted on a given choice. On a different perspective, Connor et al. (1999) argued that the offer of the "right" CS was the most influential factor for Scottish HEI applicants, followed by employment prospects, teaching reputation, image, entry requirements, academic support facilities and location. A study in South Africa revealed the influence of safety and security issues on national and international students' choice of public universities (Calitz, Cullen, and Jooste 2020), highlighting that different factors have quite different weights on the decision processes. Indeed, the aspects that influence the students' HEI/CS choices vary between countries and, for this reason, many studies address a country base perspective (Cunninghame 2020; Mammadzada 2017; Owusu et al. 2018; McManus, Haddock-Fraser, and Rands 2017; Al-Ali Mustafa et al. 2018; Marco 2018; Rudhumbu, Tirumalai, and Kumari 2017; Ho and Law 2020).

Many researchers investigated the subjects determining the career choices of young students. A number focused on factors influencing teenagers' motivations to pursue technological training, namely exploring their motives for studying engineering (Breakwell, Fife-Schaw, and Devereux 1988; Woolnough 1994). Dick and Rallis (1991) explored the reasons why young students in the U.S., who were strong in mathematics and science, did not necessarily follow a career in science or engineering. They introduced the concept of "socializers" (e.g., parents, teachers and friends, among others) suggesting that students' attitudes are influenced by people around, namely by interpreting their past experiences. Woolnough (1994) formulated the hypothesis that career choices are affected by the students' abilities and personality, their experiences in and out of school, and the value that society puts on a specific HEI/CS. His study resulted in six categories influencing career choice, namely (i) the extracurricular activities, (ii) the way the subjects are taught, (iii) the career aspirations, (iv) external factors (e.g., family background and hobbies), (v) the difficulty of the subject and amount of work involved, and (vi) the ease of entry and possibility of sponsorship. Reed and Case (2003) investigated the reasons for students' appeal to choose engineering, summarizing them into several influencing groups (i) socializers, (ii) past contact with engineers and engineering activities, (iii) aptitude for science subjects, (iv) skills on manual activities, (v) capacities on certain

mental activities (e.g., how things work, problem solving), (vi) professional career challenge and variety, (vii) social identity, and (viii) career reward.

The CS choice tends to be close related to the option for a given HEI. Research on this area has identified a number of factors influencing the CS preferences, including the reputation of the CS among employers, the employment rates, the quality of the teaching staff, the approaches to teaching, and the learning and assessment procedures (James, Baldwin, and McInnis 1999), just to mention a few.

The HEI institutions became competitive and seek to attract the best students in the global recruitment market (James, Baldwin, and McInnis 1999). Indeed, the HEI changed from domesticated, centrally funded, non marketised, to highly marketised and competitive entities (Soutar and Turner 2002). Nowadays, students have a wide range of options from which to choose and have to embark on complex decisions in order to make their choices. A way the HEI/CS can gain competitiveness is to understand the decision making processes of their potential applicants. Chapman (1986) proposed applying the consumer behavior insights to education, suggesting that in selecting a HEI/CS, students pass through a number of stages that must be well understood. However, it is worth noting that a HEI cannot, probably, be excellent in all areas, nor meet the expectations and needs of all applicants. Instead, each HEI needs to potentiate its strengths and focus on aspects on which it can become excellent (Maringe 2006).

Since 2006-2007 the undergraduate program in Mechanical Engineering at FEUP was offered through the Integrated Master in Mechanical Engineering (MIEM), which is a single 5-year cycle of studies (CS) combining a bachelor (3 years) and a master (2 years) degrees. MIEM has revealed strong appeal for the young students who seek a HEI/CS in engineering. However, despite some general perceptions about the real motivations of the candidates to choose MIEM, no study on the issue was carried out.

This paper investigates the reasons that determine the interest of students in Mechanical engineering at FEUP. A questionnaire was prepared and applied to the first year students enrolled on MIEM in 2020-2021. The responses were analyzed and interpreted. The main findings are revealed and structured so that they can be used to adjust actions that can strengthen the Mechanical Engineering ability to compete for the best potential candidates.

The paper structure is as follows. Section 1 introduces the Mechanical Engineering degree at FEUP. Section 2 characterizes the CS and presents a number of actions that are performed either by the HEI and CS to promote both FEUP and the Mechanical Engineering at FEUP. Section 3 addresses the questionnaires, presents the procedure for data collection and analyses the results. Finally, Section 4 outlines the main conclusions.

The Mechanical Engineering at FEUP

The teaching of Mechanical Engineering at the University of Porto (UP) dates back to 1885, when the Polytechnic Academy was reorganized and the academic degrees in Engineering of Public Works, Mines and Industry were established. In 1915 the Mechanical Engineering degree became autonomous and in 1926 FEUP was created. A half of century later, in 1974, the Department of Mechanical Engineering (DEMec) emerged and took the responsibility for the five years of the Mechanical Engineering degree. In 2006-2007 the Bologna process brought profound changes to the European higher educational system (Wächter 2004; Heitmann 2005; Fernandes Teixeira, Ferreira da Silva, and Flores 2007), which resulted in the Mechanical Engineering degree at FEUP to become a CS combining a bachelor (3 years) and a master (2 years) degrees into a single 5-year CS designated by MIEM. In 2019 the Portuguese Government took the decision to separate the integrated masters' degrees in two distinct CS,

with the rationale of making the Portuguese higher education system more in line with the European practice and, therefore, to facilitate the mobility of students between European HEI. A structure based on 3 + 2 years was adopted for the new CS, thus, maintaining the basis of the “FEUP Mechanical Engineering product”, but incorporating measures to overcome some MIEM’s weaknesses (da Silva, Seabra, and Lopes 2021; Lopes, da Silva, and Seabra 2021). As such, the two new CS emerged as a renewed and stronger “product” by FEUP. The bachelor is to be understood as a non-professional CS of preparation for the master (<https://paginas.fe.up.pt/~estudar/mem/>), being distinct from the CS thought at the Portuguese polytechnic schools, since it provides broader scientific background and does not include design skills. The master is a rigorous and demanding CS, differentiated from others offered in Portugal. This is achieved with innovative content, aligned with the needs of the industry and the value added by the scientific research carried out at DEMec.

1. Mechanical Engineering General Perception and Facts

When choosing a HEI/CS, the candidates take into account a number of factors. Many have been addressed in the literature, but the way the young students weight each one varies. In what concerns the Mechanical Engineering degree at FEUP no study exists about the students’ choices. Nevertheless, a number of aspects that are thought relevant to attract potential candidates to the HEI/CS were implemented and are in practice. In this Section those are presented briefly.

1.1. Mechanical Engineering general perception

A Mechanical Engineer is generally viewed as a professional who designs or helps to design almost anything, from medical devices or sports equipment to car engines, airplanes or power plants. Mechanical Engineers deal with everything that moves, right from the human body. They use knowledge of physics, mathematics and materials, and concepts such as strength, energy and movement, to design and manufacture mechanical systems that affect virtually every aspect of human lives. Construction and maintenance of equipment, energy generation and distribution, production planning and management, automation, new materials, technological processes and products are key areas. Mechanical Engineers have a decisive role to growing the economy, increasing security, and contributing to the development of individuals and societies.

The career opportunities for Mechanical Engineers are diverse, from small local companies to large multinationals, passing through public services or self-employment and consultancy. Indeed, the scope of Mechanical Engineering allows professionals to have a wide variety of career options, in which continuing education has a place. Mechanical Engineering training provides graduates with the tools and creative thinking that allow them to design a product or system, which means that the skills of Mechanical Engineers are of interest even in activities beyond engineering, such as insurance, banking and others. Indeed, the acquired skills will, throughout life, allow to know how to use technical-scientific knowledge in solving problems, to recognize the need for experimentation and be able to design, carry out and interpret results, to communicate and interact with different audiences and through different means of communication, to participate in multidisciplinary teams, with personal integrity and professional ethics, and to develop self-training.

1.2. Mechanical Engineering entry marks

Young students seem to have particular attraction by Mechanical Engineering (Duarte, Lopes, and da Silva 2021). In Portugal, the admission of students to the public higher education system obeys to *numerus clausus* that are established annually for each HEI/CS. Each student

applies with an application mark, ApM , computed as a weighted average of their secondary school grade, $S \in [0, 200]$, and their national exams grade, E :

$$ApM = k \cdot S + (1 - k) \cdot E \tag{1}$$

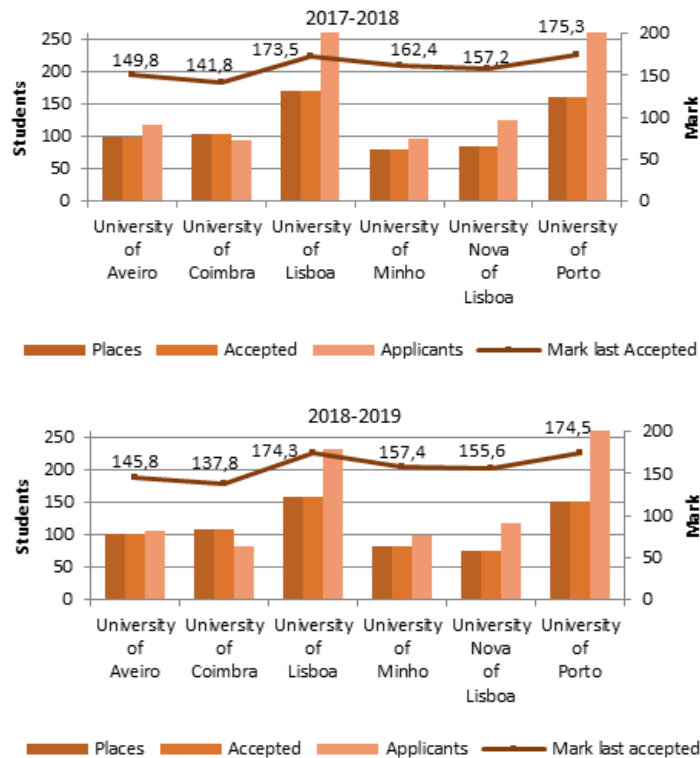
where the constant $k \in [0, 1]$ and the minimum marks required for ApM and E are decided by the HEI/CS pair. There is a national competition organized by the Directorate-General for Higher Education. The applicants may choose up to 6 HEI/CS combinations in decreasing order of preference. For each HEI/CS pair, they are ordered by their ApM and accepted until the *numerus clausus* is full.

For the Portuguese Mechanical Engineering Integrated Masters, all HEI require the students to do the “Mathematics A” and “Physics and Chemistry” national exams, and calculate E as:

$$E = \frac{1}{2}(M + PQ) \tag{2}$$

where $M, PQ \in [0, 200]$ denote the “Mathematics A” and “Physics and Chemistry” marks.

In the past few years, MIEM has revealed a high capability for attracting students, when compared to other similar CS in Portugal. This is illustrated in Figure 1, which compares the numbers of places available, students accepted and candidates (represented by the bars) for the Universities of Aveiro, Coimbra, Lisboa, Minho, Nova of Lisboa and Porto, for the period 2017-2018 up to 2020-2021. The values of k are 0.5 for all HEI, with the exception of Universities of Minho and Nova of Lisboa, which is set to 0.6. The line represents the ApM of the last student accepted at each HEI.



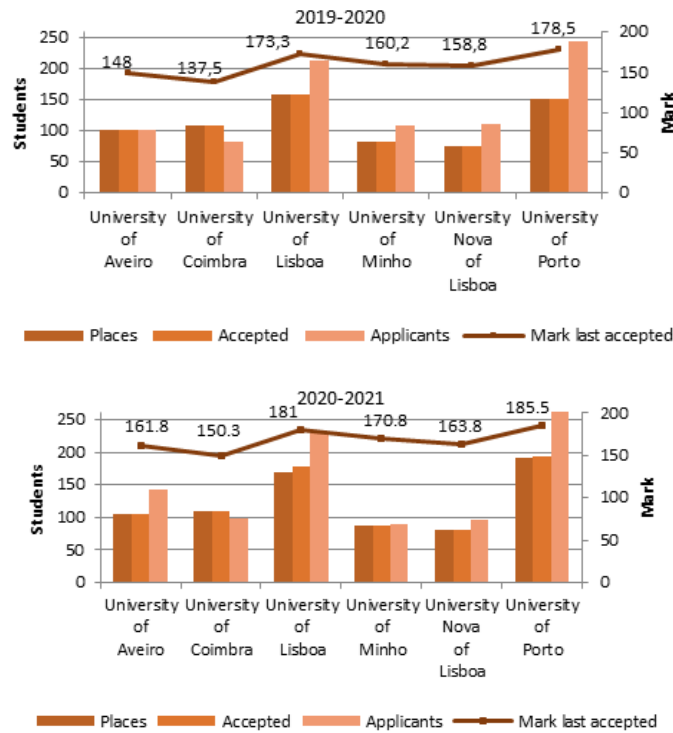
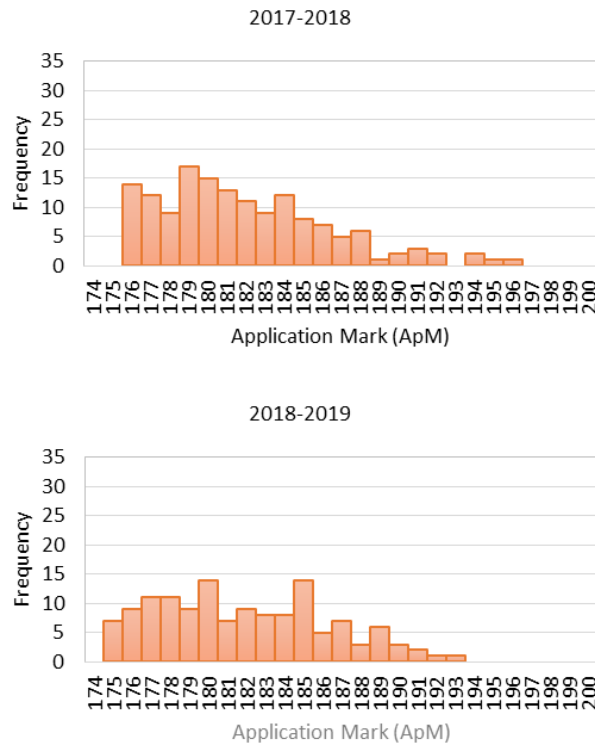


Figure 1: The numbers of places available, students accepted and candidates (bars) for the Mechanical Engineering Integrated Master CS in 6 Portuguese HEI. The lines represent the ApM of the last student accepted

Figure 2 portrays the distributions of ApM for all MIEM students accepted at FEUP in the period 2017-2018 up to 2020-2021. In the year 2020-2021 there is a clear increase in the ApM due to the changes introduced in the national exams rules provoked by the Covid-19 pandemic.



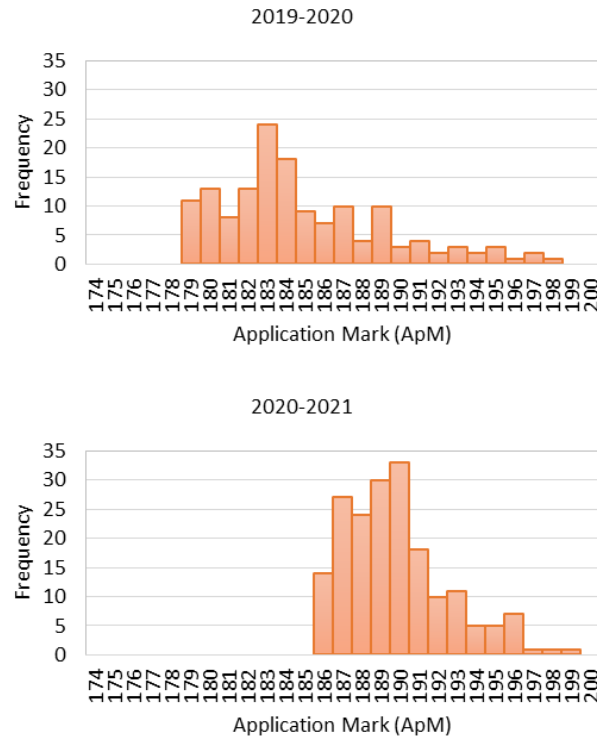


Figure 2: The distributions of ApM for all MIEM students accepted at FEUP in the period 2017-2018 up to 2020-2021

1.3. Institutional information and advertising

The HEI/CS provides institutional data about FEUP, DEMec and the Mechanical Engineering CS. The information is available online at the websites www.fe.up.pt and <https://web.fe.up.pt/~miemweb/>. Moreover, the CS produces annually a printed prospect with relevant information for the potential candidates. This is an effort to unveil the unique identity of the Mechanical Engineering program at FEUP, thus clarifying its differences in relation to other CS.

The HEI/CS maintains an active posture for the dissemination of its “products” to the general public, with emphasis on secondary schools. Study visits to FEUP’s laboratories and talks at secondary schools are organized in a regular basis. Dissemination and advertising actions are assumed important measures to attract young students. The larger events are the “Profession Engineer Week”, the “UP Exhibition” and the “Junior University”. Those involve students already enrolled in the FEUP’ CS, who collaborate with enthusiasm to reach and motivate their forthcoming colleagues. The “Profession Engineer Week” is promoted by FEUP’s Communication and Image Service. It aims to be a unique opportunity for secondary school students to get to know FEUP’s training offer up close. The “UP Exhibition” is an open space for communication between students of basic and secondary schools and their colleagues already at University. Moreover, it allows visitors to question teachers and researchers about the HEI/CS, their scientific activity, their projects, and the impact of their work. The event is open to the students’ families. The “Junior University” promotes one summer week activities for students from 10 to 17 years old, with the objective of them to know the CS and research at UP and awakening in young people the vocation for knowledge and science.

1.4. HEI/CS Reputation

FEUP’s main mission is established in the engineering and related areas. Its scope includes the academic education, the research, the development and the innovation activities, in close

connection with knowledge and technology transfer, provision of services, delivery of continuing education, participation in the discussion of national policies and involvement in the economic, cultural and social life. As an integral part of those dimensions are the cultural, civic and humanist formation of the FEUP's community, the enhancement of the surroundings and heritage, and the preservation of the HEI's memory.

The Mechanical Engineering CS reflects the FEUP's mission by training engineers capable of pursuing national and international professional careers. To this end, it gives its students technical and personal skills of recognized importance, taking advantage of the scientific quality of its teaching staff. It is worth mentioning that in 2020 the UP was ranked in the top 20 European HEI in the area of Mechanical Engineering as per the Taiwan Ranking (<http://nturanking.csti.tw/ranking/ByField/ENG>).

1.5. CS Employment

As part of the follow-up given to the students after concluding their CS, FEUP promotes every year the Employability Survey. Data for the period 2015-2016 to 2019-2020 indicate employability rates of 90%, 87%, 97%, 96% and 88%, respectively, for former MIEM students. Moreover, near 80% get their first job up to 3 months after CS conclusion, despite the value for 2019-2020 being smaller than usual, maybe caused by the Covid-19 pandemic. These results are illustrated in Figure 3.

Data from Directorate-General for Education and Science Statistics show that the percentage of MIEM graduates in the years 2014-2017 (558 in total) who, in 2018, were registered as unemployed was 1.8%. This figure was better than the one verified for graduates of other CS in the same area, which reached 2.5%.

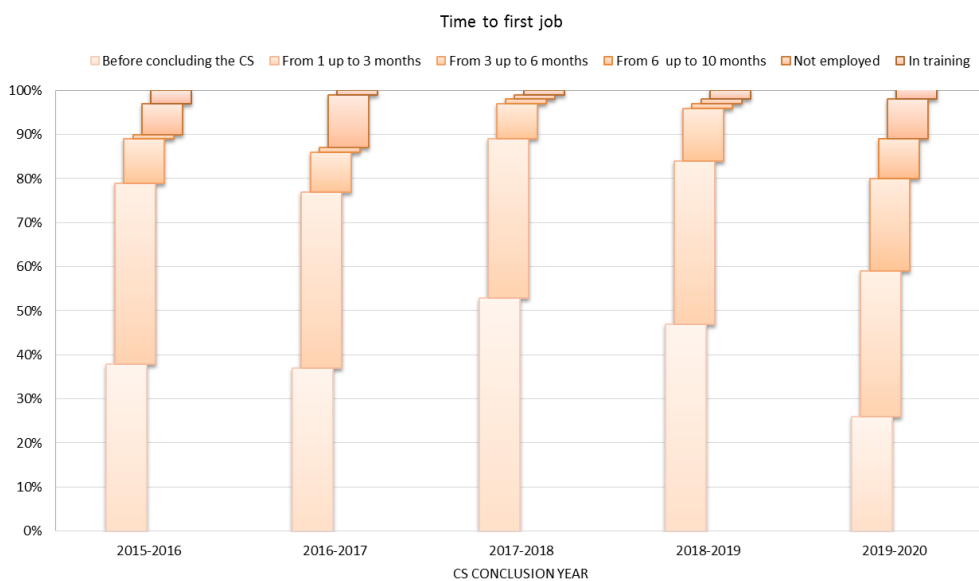


Figure 3: MIEM employability rates and time to first job for the period 2015-2016 to 2019-2020

2. Questionnaires, Data Collection and Analysis

With the objective of understanding whether the actions in practice at the HEI/CS for attracting young students are actually relevant and also to know if other measures mentioned in the literature should be implemented, an online questionnaire with closed questions was prepared and applied to $N = 200$ students, one month after their enrollment at FEUP, in the academic year 2020-2021. This Section presents generically the questionnaire and analyses the responses to the questions.

2.1. The questionnaire

The questionnaire was structured into four parts, with the objective of capturing information relevant to understand the reasons of the students for choosing Mechanical Engineering.

Part 1 addressed the importance of information and advertising about the HEI/CS. The students had to rate the relevance of several factors into the levels {Very low, Low, High, Very high, Do not know, Not applicable}. The aspects assessed included:

- General information about the CS and FEUP, available in electronic and printed format;
- Face-to-face and online dissemination actions promoted by UP and FEUP, as the “Profession Engineer Week”, the “UP Exhibition” and the “Junior University”, and talks about FEUP and the CS at FEUP and at secondary schools;
- Opinions of colleagues, former and current students of the CS, secondary school teachers, psychologists, family and friends, and people connected to the profession.

Part 2 dealt with the importance of factors directly related to the HEI/CS. In this part, the students had to classify the relevance of a number of aspects into {Very low, Low, High, Very high, Do not know}. Those comprised:

- Location, quality of facilities and laboratories, subjects taught at the CS, quality of training, scientific and pedagogical credibility of the teaching staff, research projects and laboratories associated with the CS, and prestige of the HEI/CS among society;
- Perspectives of employability and remuneration, versatility of professional performance, professional fulfillment, and expectation to exercise a profession compatible with the social condition envisaged;
- Opportunities for professional autonomy, work in teams, achieve management and leadership positions, and perspectives for career internationalization;
- Unawareness of the differences between engineering CS, value of the entry mark (expectation of belonging to academic elites), aptitude for the disciplines of physics and mathematics, and reasons for electing the CS as a second choice.

Part 3 envisaged to perceive the students emotional condition before and after choosing the CS. In this case, the students had to express their degree of agreement with certain sentences, according to the classes {Very low, Low, High, Very high, Neutral}. Those sentences were about:

- Awareness about parents/family satisfaction with the CS choice;
- Sensation of belonging to an intellectual and scientific elite;
- Consciousness about the possibility of changing in case of dissatisfaction with the CS;
- Wish of having had more information about CS before applying;
- Wish of having had better knowledge about the differences between the engineering CS before applying;
- Feeling of having parents/family pressure to choose a HEI/CS;
- Feeling of having social pressure to choose the HEI/CS;
- Feeling of having parents/family pressure to choose another HEI/CS;
- Feeling of having parents/family interested on other area of study;

Finally, part 4 was about general questions. Besides specifying the time when the decision procedure about the HEI/CS started, the students had to rate a set of aspects using the levels {Very low, Low, High, Very high, Complete}. Those included:

- Degree of certainty at the time of choosing;

- Degree of comfort with the decision at the time of choosing and also at the time of answering the questionnaire;
- Degree of satisfaction with the decision at the time of answering the questionnaire.

2.2. Data analysis and results

To analyze the data, the number of responses obtained in each possible category was counted and plotted. Moreover, a quantitative simple measure, to be denoted by *SCORE*, was defined to help summarize the results, given as:

$$SCORE = \sum_{i=1}^4 w_i \cdot f_i \quad (3)$$

where f_i , $i = 1, \dots, 4$, stand for the number of answers in the classes {Very low, Low, High, Very high}, and w_i are weights.

Figure 4 depicts the results for the importance of information and advertising on the HEI/CS choice, that is, the first part of the questionnaire. The weights for the *SCORE* are {1, 2, 3, 4}. The factors assessed are shown by decreasing order of *SCORE*. It is verified that the most relevant factors that contribute to the HEI/CS choice are related to opinions of others and information availability, while the advertising actions have small influence. It is worth noting that a considerable number of students decide not considering any of the factors at all and that the opinions of psychologists are not important. Still, many students do not know or find these aspects not applicable.

Figure 5 to Figure 7 compare the results obtained for each of three main groups of questions, namely those related to information, advertising and opinions. It can be seen that the most important information source is the CS syllabus, but the CS and FEUP websites are also relevant (Figure 5). For the advertising actions, the "UP Exhibition" and the CS activities are considered significant, while the visits to FEUP and talks are secondary. It is noticed the small importance given to the "Junior University" (Figure 6). The most respected opinions are those of professionals, experienced colleagues and family are also eared to formulate a decision. In contrast, opinions of teachers and colleagues of the same year are less important, and psychologists are almost ignored (Figure 7). The results for the importance of factors directly related to the HEI/CS on the decision process, that is, the second part of the questionnaire, are shown in Figure 8. The most decisive aspects that dictate the students' choices are those associated with employability, quality of training and reputation of the HEI/CS. With less importance are the entrance marks, the HEI location or social issues. Moreover, the decisions seem to be taken with full knowledge about the various options available. Figure 9 to Figure 12 compare groups of related factors to allow a better understanding of their importance. It can be seen that, besides the quality of training and the HEI/CS reputation, the scientific excellence on the teaching staff is more important than their pedagogical capacity. The remaining factors in the group were considered as having similar relevance, with the exception of the HEI location, which seems to be not influential at all (Figure 9). Regarding the questions about employability and professional activity, the versatility of the CS is of paramount importance, which is, naturally, not independent of aspects such as employability, economic return and professional success. The social status seems not be on the list of factors influencing the choice (Figure 10). The aspects related to the professional career have similar weight (Figure 11). Finally, with respect to other influencing factors, the aptitude for the areas of mathematics and physics is important. This is not surprising, since those are fundamental for a Mechanical Engineering CS (Figure 12).

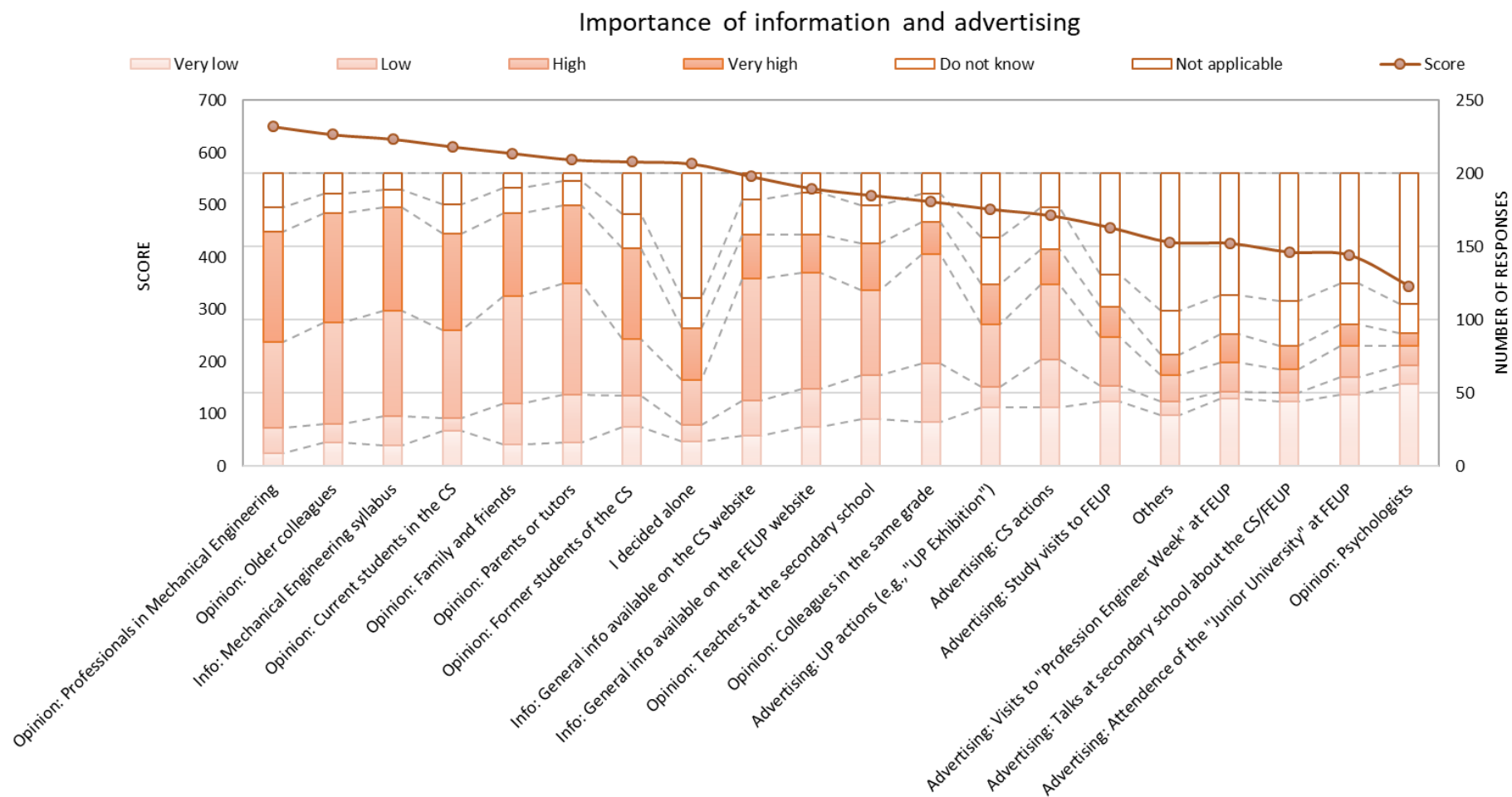


Figure 4: The importance of information and advertising on the HEI/CS choice

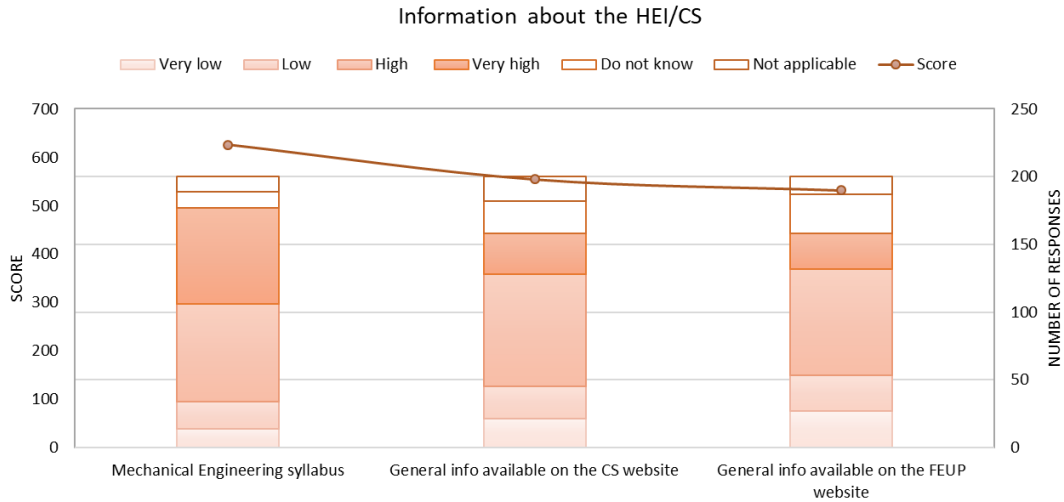


Figure 5: The importance of information on the HEI/CS choice

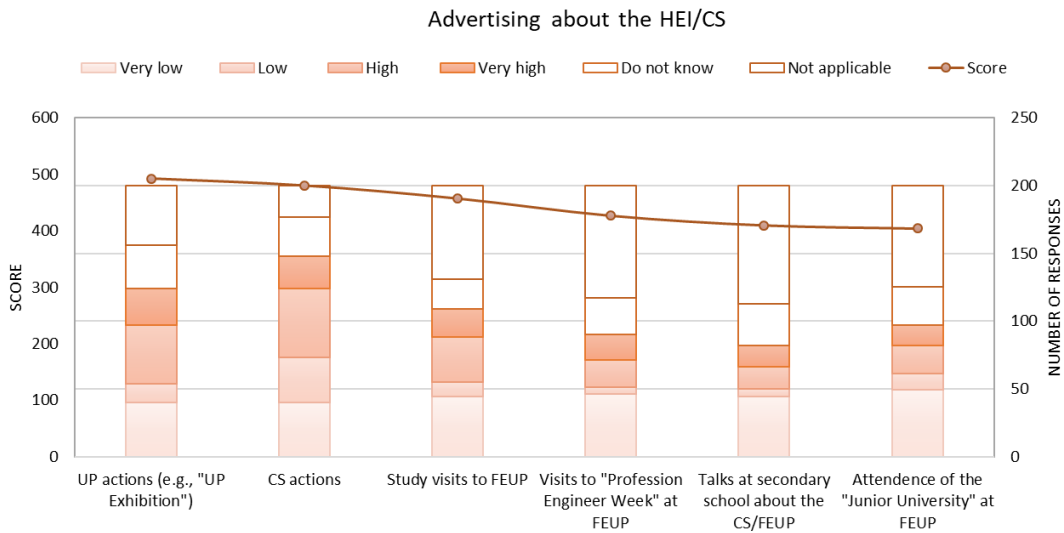


Figure 6: The importance of advertising on the HEI/CS choice

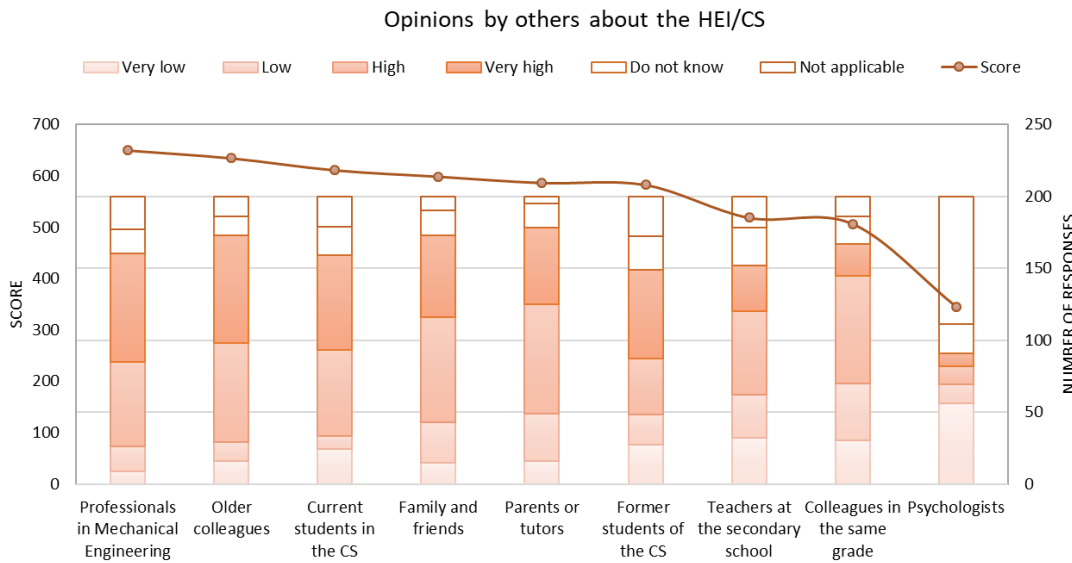


Figure 7: The importance of opinions of others on the HEI/CS choice

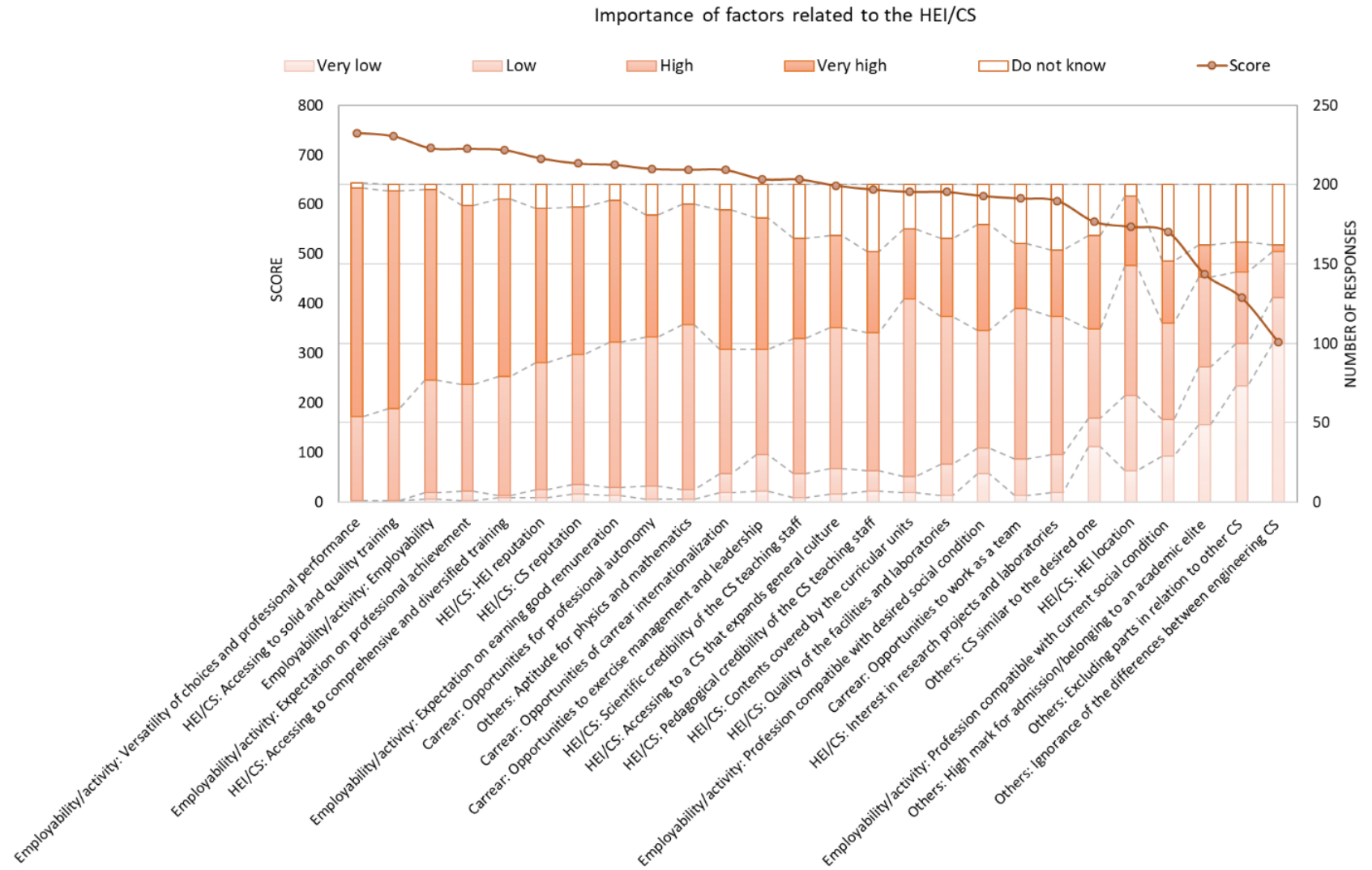


Figure 8: The importance of factors directly related to the HEI/CS for the decision process

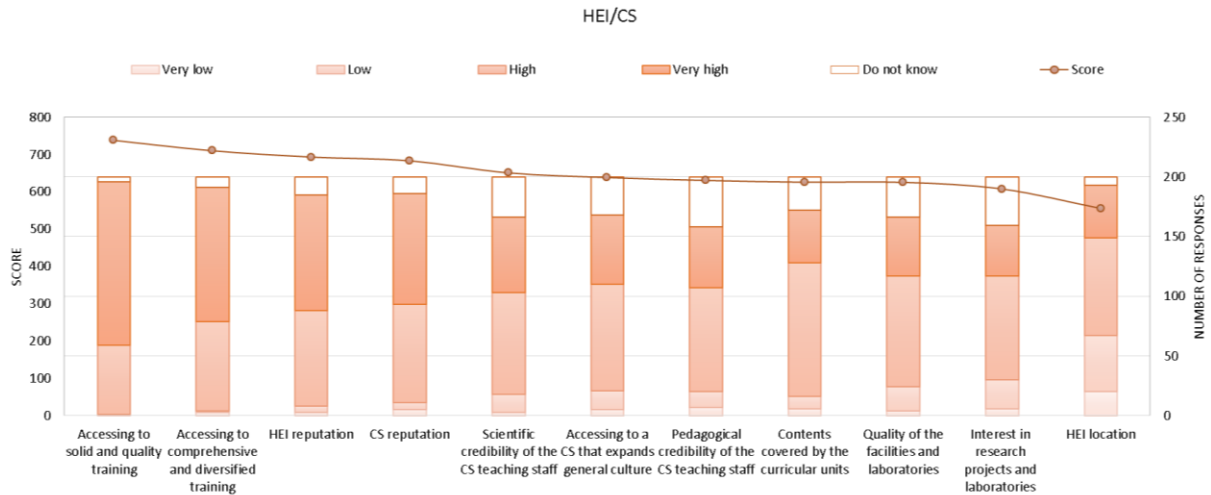


Figure 9: The importance of HEI/CS factors on the choice



Figure 10: The importance of employability and professional activity factors on the choice

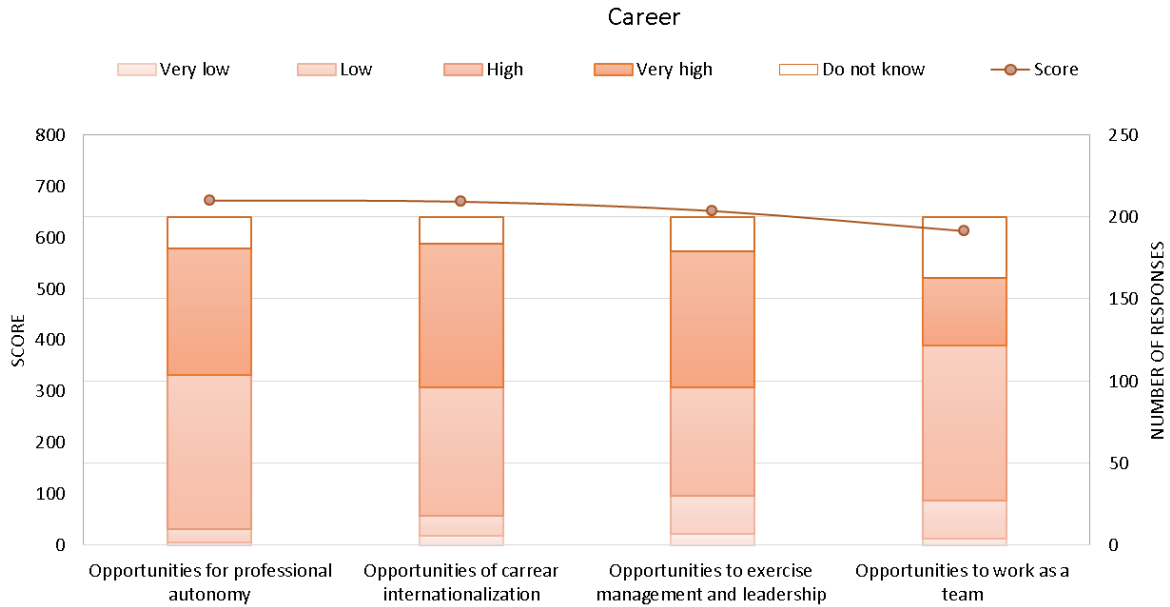


Figure 11: The importance of career related issues on the choice

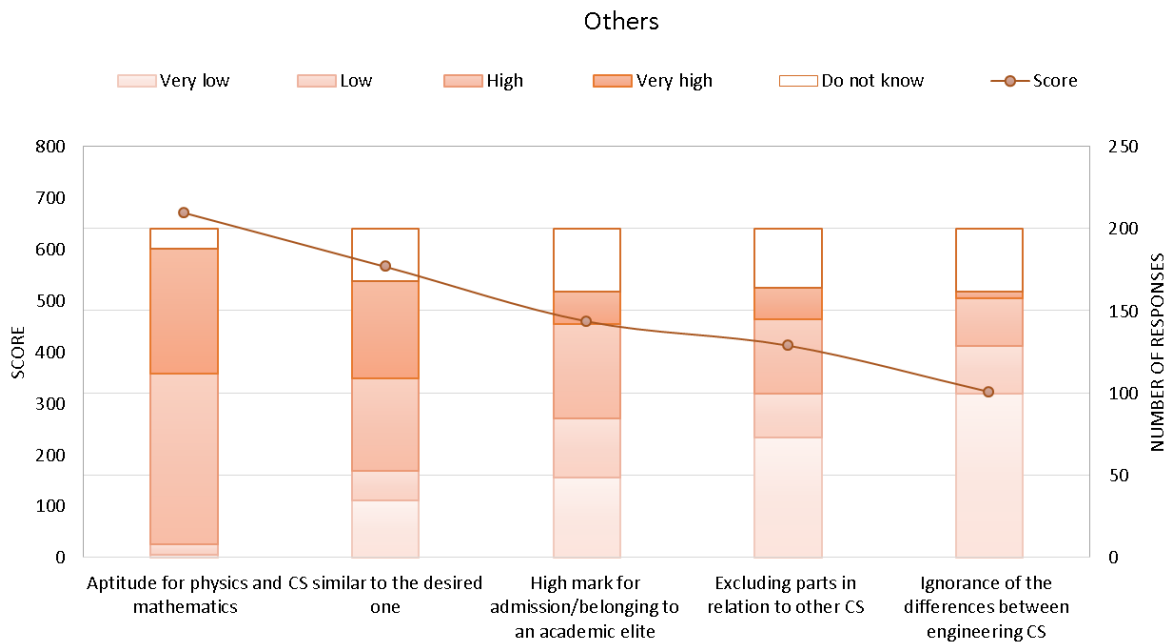


Figure 12: The importance of other factors on the choice

The results for the third part of the questionnaire, which assessed the students' mood both before and sometime after their decision about the HEI/CS, are presented in the follow-up and illustrated in Figure 13 and Figure 14. The answers unveil that more information about the CS and about other engineering CS would have been helpful, that the decisions seem to be taken without any sort of external pressure and that the students feel comfortable, since they are aware of the possibility for changing to another HEI/CS in case they want.

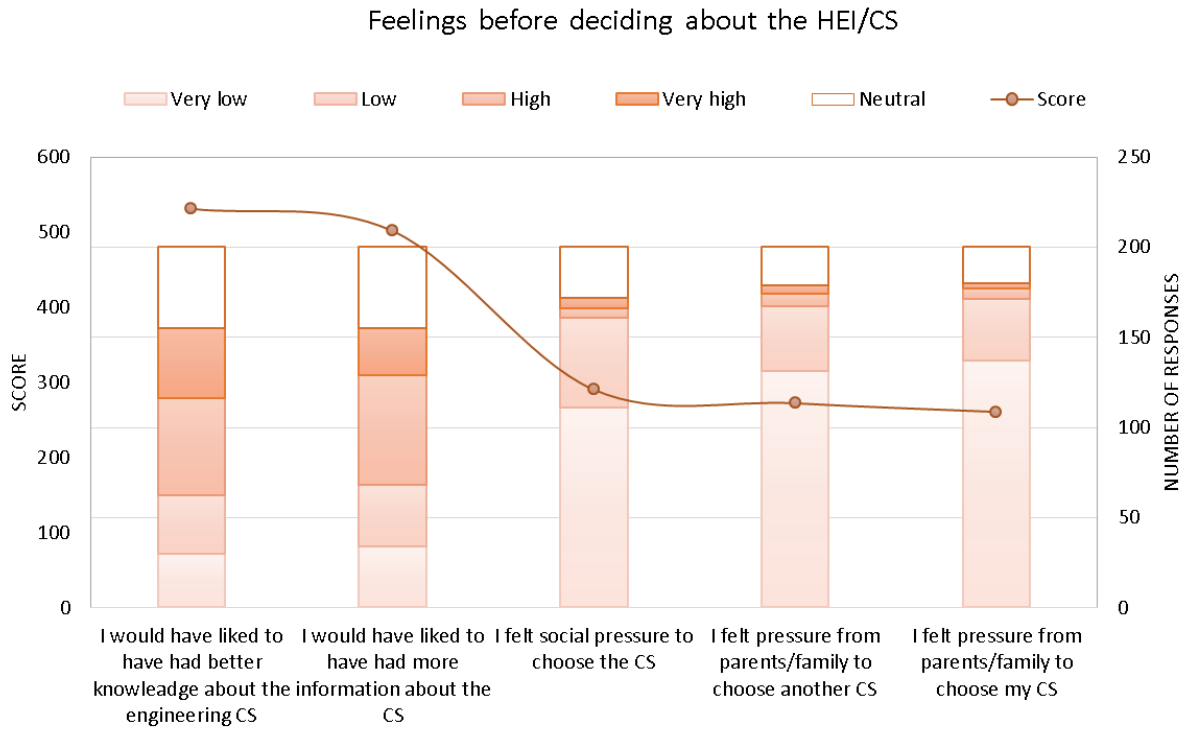


Figure 13: The level of agreement with a set of feelings before deciding about the HEI/CS

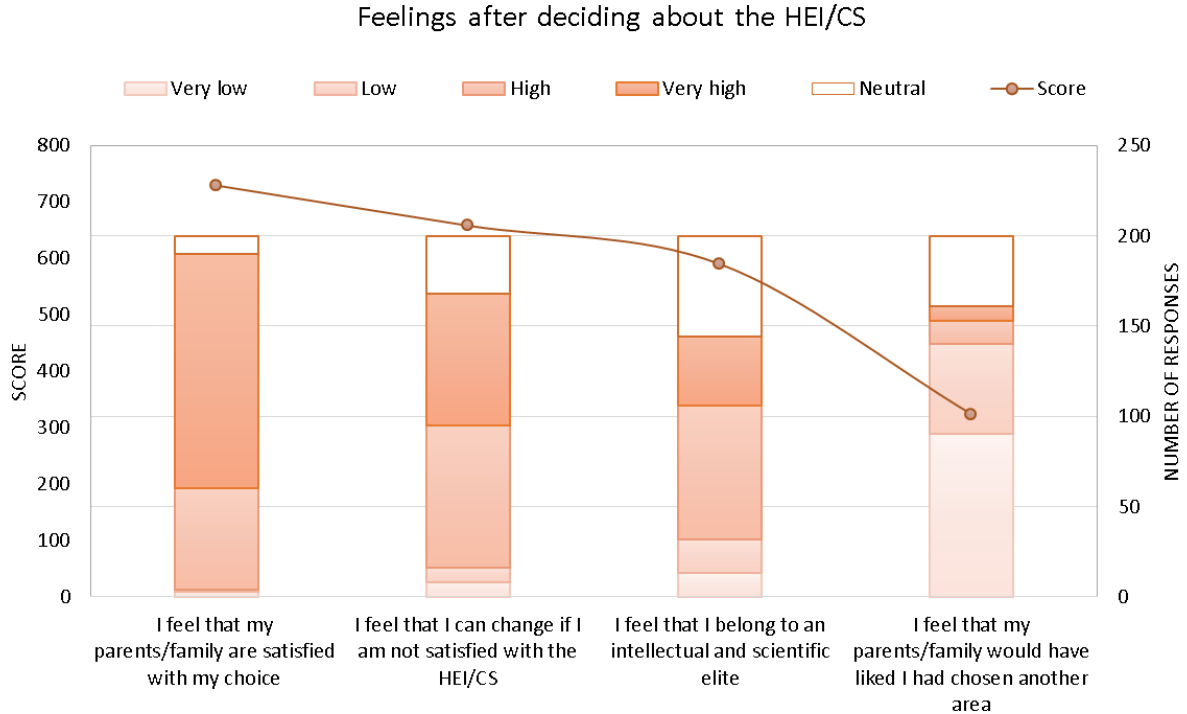


Figure 14: The level of agreement with a set of feelings after deciding about the HEI/CS

Figure 15 depicts some results related to the time when the decision process started. Moreover, the degrees of amenity, confidence and happiness about the choice are assessed. Summing up, it can be concluded that most students start deciding during the last two years

of the secondary school, but there is a high percentage (16%) who decide near to the application time. The amenity, confidence and happiness about the choice are generally high.

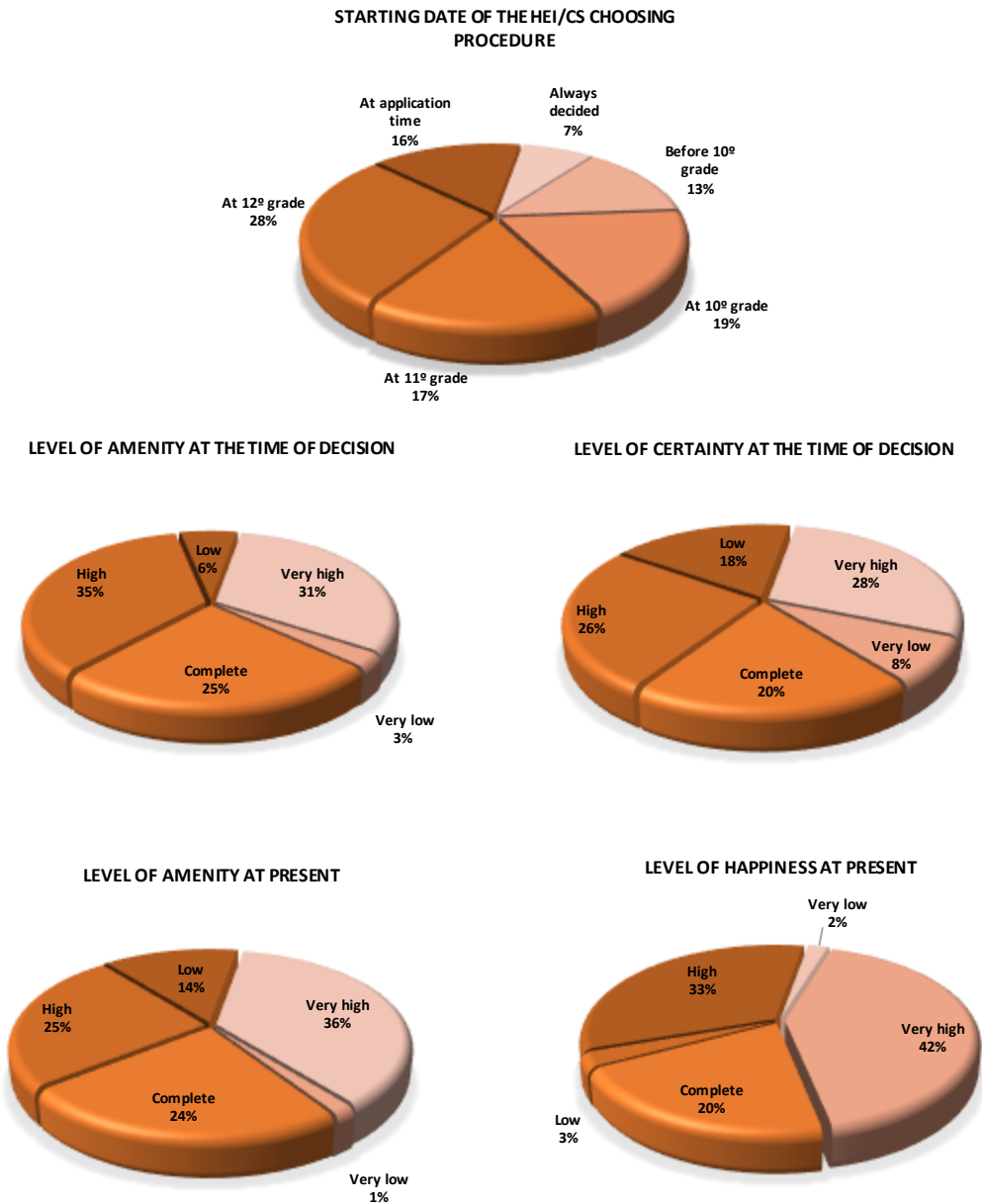


Figure 15: Results related to the time when the decision was take and the degree of confidence about the choice

3. Conclusions

The paper studied the main reasons that determine the interest of students in Mechanical engineering at FEUP. Quantitative data were collected by applying a questionnaire to the first year students enrolled on MIEM in 2020-2021. The results suggest that the opinions of others, the quality of the information about the CS, the versatility and employability rates, the quality of training and the reputation of the HEI/CS are decisive. On the other hand, advertising actions, social issues and the location of the HEI have small influence on the choices. The decisions seem to be made in full awareness of all facts and the students feel comfortable with their options.

In a world where job and career prospects are increasingly important, students are choosing their HEI/CS with an eye to future security. The study presented agrees with this, but not all findings and conclusions will apply everywhere, owing to socio-economic international variations. This is illustrated by quoting the testimonial of a British student that recently has enrolled on an Engineering degree/UK university:

"I don't think I had any external factors to contribute to my choice of wanting to do engineering. I would say family helped in guiding me but there was no pressure or expectation to do so, and persuasion from friends and teachers was non-existent as I was sure of what I wanted to do. I think my decision was set after getting the Arkwright Scholarship [...]. Physical activities such as making or doing something were a lot more persuasive and informative for me as it got me more involved compared to a talk.

At school, engineering was not a career advertised to me at all; I only knew I liked physics and maths. The only time it was advertised was for the Arkwright Scholarship, and after getting it, the doors opened [...]. In advertising a degree and course I would definitely say the reputation and quality of the course and the structure are the most important. The deciding factor for me for my unis was 1. reputation/quality of education, 2. structure and modules within degree. Entry requirements had little say for me since they are all the same for an MEng [...]."

To sum up, the findings can be used to strengthen the Mechanical Engineering ability to compete for the best potential candidates. Nevertheless, to have more strong conclusions, more questionnaires have to be applied, for instance, in an annual basis, to collect and further analyze larger volumes of data.

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