

Semantic Data : R project Report

Study of the 2019 Parcoursup dataset

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January 13, 2021

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Introduction

This dataset presents the wishes of students for further studying in higher education in France at the end of the assignment process by Parcoursup for the 2019 session. This dataset given by the government covers 652,865 of the 937,332 candidates, of which 352,547 are female (i.e 54%), from the year 2019. We have chosen this dataset in order to analyse the profiles and the assignment wishes of students for the different offered courses in higher education. Here we focus on the affectation results of year 2019 for the different fields and center our analysis on Toulouse Academy then on INSA.

1 General tendency for studying in France

1.1 Affectation for boys and girls

We want to visualise the differences between boys and girls' affectation when it comes to the field of their studies.

We can see in Figure 1 that regardless of the region, girls are predominant (at least 75% of girls) in the medical (i.e IFSI, PACES) and in the education (i.e EFTS) fields, while boys tend to be more on technical studies (i.e BTS, DUT) with them being more than 50% and likely on engineering studies (i.e Autre formation, CPGE). We can also notice for licences that there are also more girls than boys even when comparing it to the total number of girl students. We can presume here that girls and boys

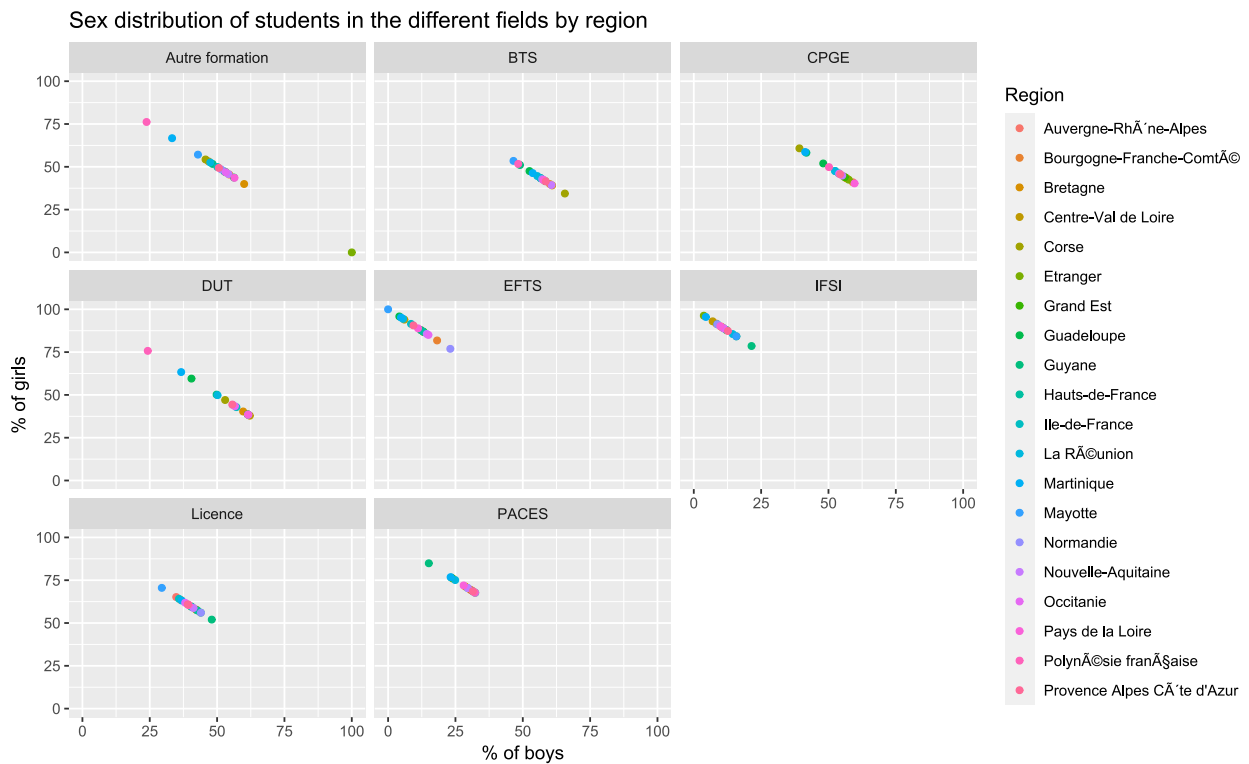


Figure 1: Distribution of bachelors by sex

wish for different sector of work in the future thus the different in study fields. Female students also tend to move towards longer studies compared to male ones.

1.2 The places to be

Here we look for the biggest academies and also where are the students travelling to to study (from their academy to another one). In this study, we separated the academy of Paris, Créteil and Versailles but they are also often considered as one: Paris-Créteil-Versailles Academy.

We can easily see in Figure 2 that the capital city of France is also the capital city of learning and that the big cities also offer a large place to study.

In Figure 3 we observe that Paris Academy is the only one academy where more than half the students come from another one (i.e 72.4%). This is most likely due to that admission to Paris' tertiary schools is very competitive as they are the best of the country and only the best students are accepted. Another remarkable point is that foreign french academies have in average a bit less than half of their bachelors coming from France to study.

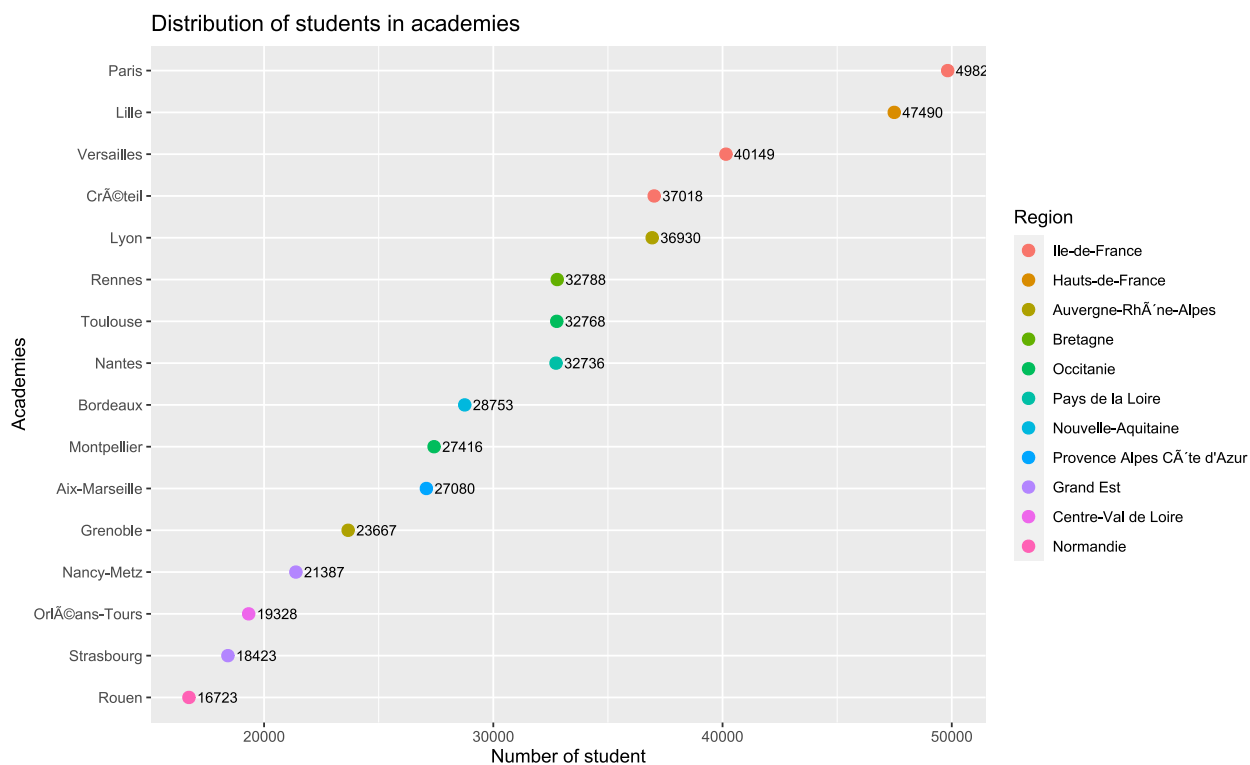


Figure 2: Top16 most populated academies

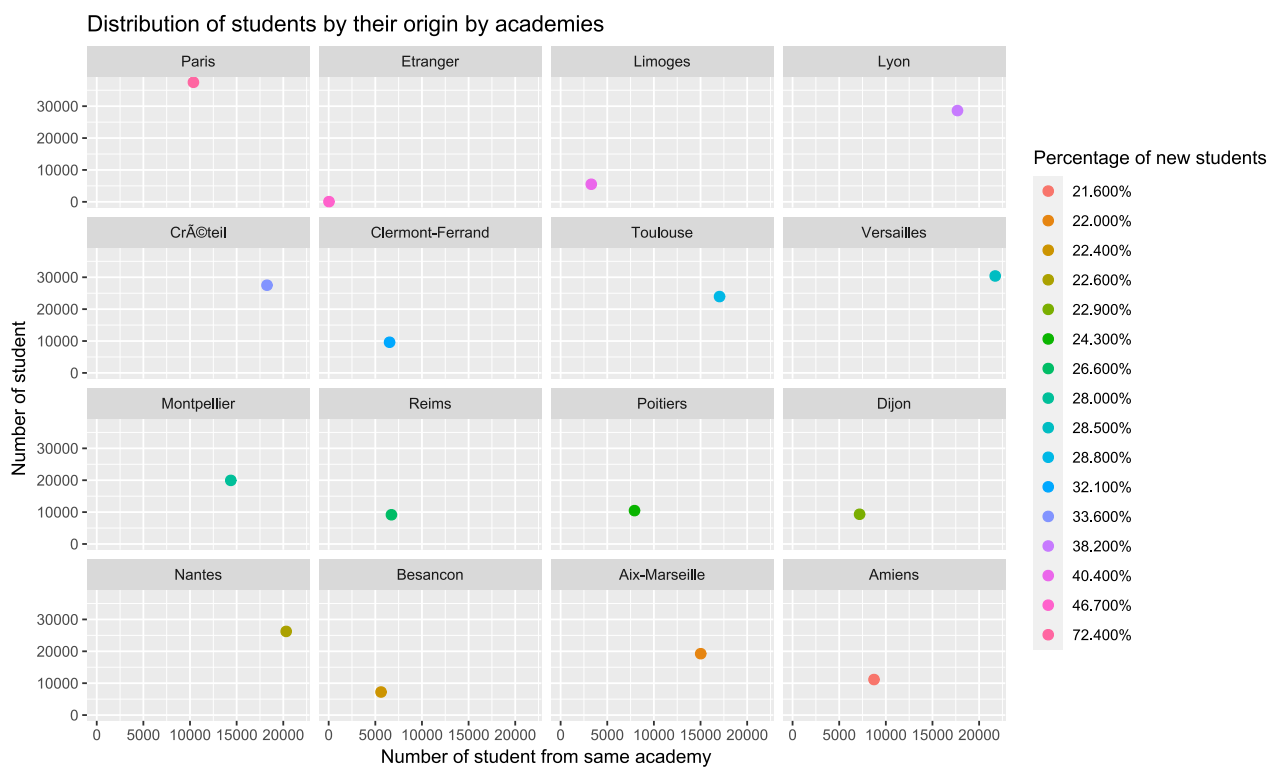


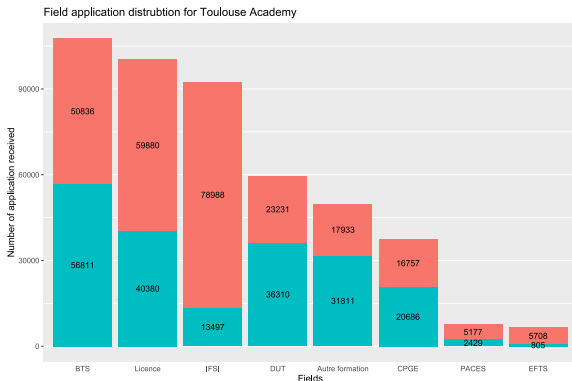
Figure 3: Top16 most interesting place to study

2 Focus on Toulouse Academy

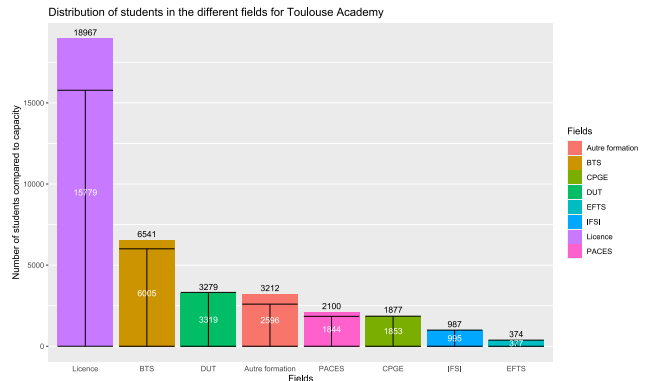
Now we center our analysis on Toulouse Academy in this second section.

2.1 Postgraduate application and distribution

We decide to analyse the application and distribution of admissions in the various sectors by any types of tertiary schools for Toulouse Academy. The results are given in Figure 4a and Figure 4b.



(a) Application distribution for Toulouse

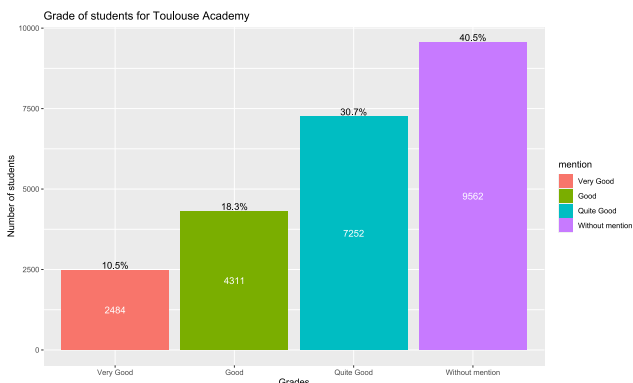


(b) Number of students for Toulouse Academy by field

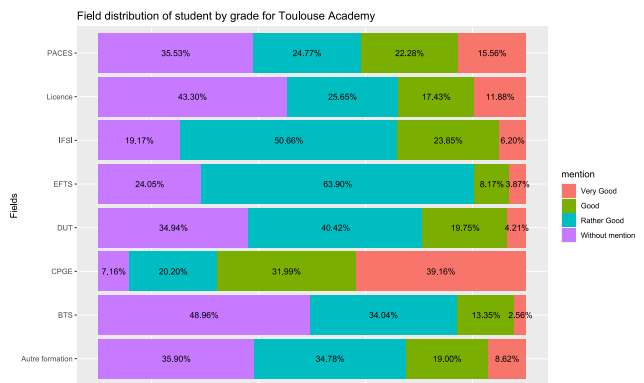
We can see that BTS was applied to the most by students even before the faculty (i.e licenses) and then is IFSI (see Figure 4a). But it has to be notified that one student can apply to multiple schools so the number of requests the fields of studies receive does not correspond to how much wanted the field is. However, compared to the schools capacity (see Figure 4b), the proportions seem to indicate that becoming nurses is what really interest students, mostly girls as we have mentioned earlier. Applications for BTS in this case are more likely to secure an alternative as they are easier courses to be admitted in. Licences are the least popular field within higher education as can be seen by the number of candidatures and that the courses are not full.

2.2 Grade assignment correlation

Next we compare the bachelors' grades to their assignment in the different fields. These data in Figure 5a and in Figure 5b only consider new bachelors so we can conclude by adding the different numbers that reorientation between fields happens.



(a) Grade distribution of bachelors for Toulouse



(b) Field distribution of bachelors for Toulouse by grade

We can easily conclude with these figures that CPGE is where the best postgraduates choose to go to, that is to say probably going to engineering schools and other best schools of France. As for BTS, if we follow the grades of the students and make deductions, the massive number of applications could correspond to the worst postgraduates in terms of academical performance that want to stop studies

and are searching for an school to be admitted and quickly get to work after finishing it. Whereas average students that still want to continue studies choose licenses more.

3 The National Institute of Applied Science of Toulouse

Finally, we decide to have an overview of the admissions to the INSA of Toulouse, and precisely, what mention at the baccalaureate, these future engineers have they obtained, and some information about parity.

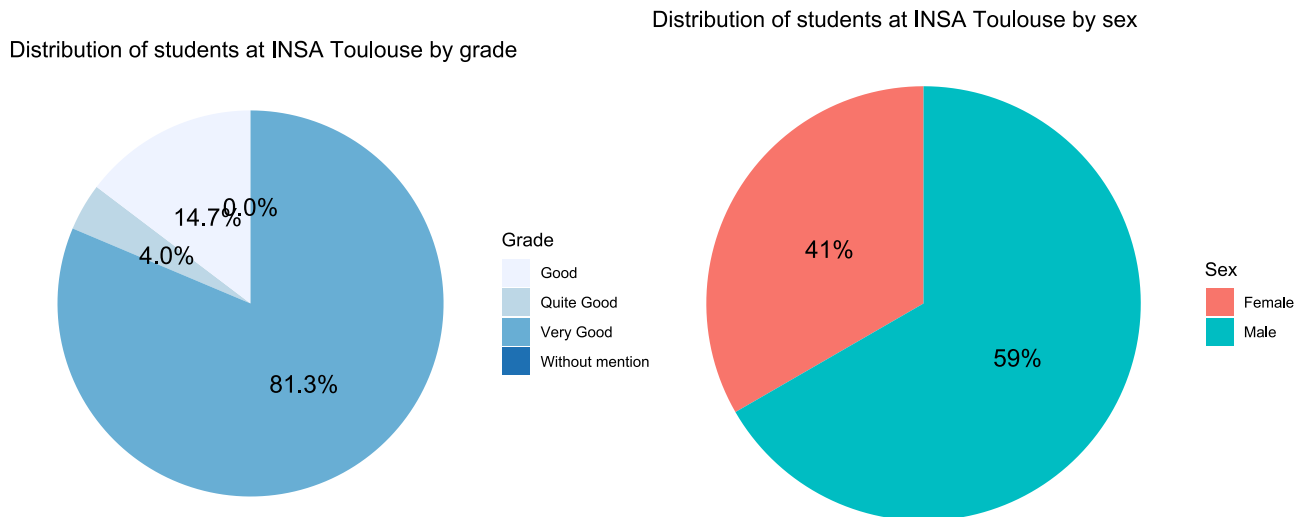


Figure 6: Distribution of students at INSA Toulouse

We can note that INSA Toulouse seeks excellence among graduates. Indeed, in the years of 2019, more than 80% of admitted students obtained the "very good" grade at the baccalaureate and INSA never recruits students who received no mention. It can be assumed that each year the same observations can be made.

Conclusion

To conclude, we can see that some fields attract girls more than boys and vice versa. Moreover, at national level, the Parisian basin predominates in the choice of higher studies, because of its diversity of schools. In 2019 in the Toulouse basin, there was a strong demand for medical studies in mostly IFSI. With BTS also being heavily demanded, it implies that only a minority of students desire to follow potentially longer studies. Finally, INSA Toulouse retains a desire for excellence since more than 80% of students have obtained a very good grade at the baccalaureate.

Appendix

Dataset URL: data.gouv.fr/datasets/parcoursup-2019

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