

# **When Studying Means Leaving: How Distance to Higher Educational Institutions Shapes Academic Aspirations in Peripheral France**

## **I. Topic**

This research aims at understanding how the geographical distribution of higher education institutions – and their perceived quality – affects young graduates’ choices when pursuing their education. To what extent do distance to the most attractive or adequate programs lead prospective students to reshape their educational aspirations? To give some empirical insights to this complex research question, this paper focuses on the national level, considering regional disparities in the French higher education supply and the programs prospective higher-education students apply to.

## **II. Theoretical focus**

Higher educational choices are not the product of individual strategies based on complete information (Winston, 1999). They rather emerge from a collective decision-making process involving high school students, their families and the educational institution (Kingston and Lewis, 1990). In France like in many other countries, prospective higher-education students choose from a wide number of institutions and degrees, with large variations in their perceived quality (Frouillou and Moulin, 2019): the perceived quality of universities especially depends on their location, with marked disparities between central and peripheral localities. Research shows that measures of university quality strongly correlate with migration chances (Baryla and Dotterweich, 2001; Ciriaci, 2014). However, even when French students are aware of the geographical hierarchy of higher education programs, their resources do not always allow them to adjust for it (Baron, 2005; Didelon-Loiseau and Jedlicki, 2019; Frouillou, 2014). Social trajectories and places of residence shape young adults’ aspirations and capabilities to change regions (Authier et al., 2022; Cayouette-Remblière et al., 2019). In turn, they affect their educational choices (Ball et al., 1995; Frouillou, 2014). Immobility is often an active decision that values the effective support of family and wider social networks over the riskier promises of “better opportunities” (Carling and Schewel, 2018; Sonzogno et al., 2022; Thomassen, 2021). And while giving the appearance of a more open system with a better flow of information, the rise of digital higher education application platforms in France has actually accentuated these mechanisms (Frouillou et al., 2020; Frouillou and Moulin, 2019). Understanding how students adjust their educational aspirations based on their location in the geographical structure of higher education institutions is therefore critical to assess how human capital accumulation articulates with internal migration and the reproduction of regional disparities (Ciriaci, 2014; Faggian et al., 2017; Sonzogno et al., 2022). Contrary to research that usually looks at the geographical origin and distribution of students already enrolled, this paper brings new light to this question by looking at the choices prospective students formulate prior to selection. It also includes continuous measures of distance by combining detailed administrative data on the students and their choices with route durations calculated using the Open Street Map server. This novel approach provides a fine-grained understanding of the mechanisms linking educational aspirations to mobility aspirations, when the (perceived) quality of higher education institutions is unevenly distributed across a country.

### **III. Data**

This paper uses the 2019 administrative data from *Parcoursup*, a state-managed digital platform that centralizes applications to French higher education programs. Most of French higher education institutions are affiliated with the platform, with the exception of some private establishments. All candidates who wish to enroll in the first year of a bachelor program or equivalent have to apply using this platform. The data therefore allows for accessing their choices prior to the selection process. The data have a relational structure that includes a database with information on the applicants (age, gender, location, rough measure of high school performance, family composition, occupation of their parents, whether they are grant recipients, whether they are enrolled in higher education, etc.), a database providing detailed information on all the higher educational programs they could apply to (type of degree and course, location, level of grant recipients quota, private or public, etc.), and a database with information on all the choices that were registered. When reduced to those who were about to graduate high school in France when they apply to higher education programs, the data include the profiles and choices of 669,322 prospective students who have registered at least one choice on the *Parcoursup* platform, with 17 registered choices on average. In addition to these administrative data, analyses include routes information from the Open Street Map server. Distances in minutes between each municipality where candidates live and the barycenter of each program's department were computed and then used to measure candidates' exposition to higher education institutions in terms of diversity or number (average distance to a program), selectivity (average rate of acceptance weighted by the distance) and attractiveness (average rate of candidates with 1<sup>st</sup>-class honors weighted by the distance).

### **IV. Methods**

This paper uses candidates' rates of acceptance as a *proxy* for their educational aspirations. While rates of acceptance reflect students' academic performances, associations with other characteristics such as family background or gender – that are known to limit or promote aspirations – suggest that they also capture the extent to which students allow themselves to aim for more selective programs. Analyses are based on linear regression estimating the rate of acceptance controlling for a broad measure of regional location that distinguishes the most central regions (Paris and its region) and the most peripheral (French overseas). Controls progressively include candidates' demographic profile (birth year, gender), social background (social grant recipient, parents' occupation) and academic performances (type of baccalaureate, baccalaureate distinction), average distance, acceptance rate index, 1<sup>st</sup>-class honors candidates index, as well as the size of the population born in the same department as the candidate and living in another region.

### **V. Preliminary findings**

Preliminary findings confirm that rates of acceptance reflect both mechanisms of selection that drive programs to admit some profiles more than others and prospective students' propensity to apply to more selective programs. They stress the weight of the geographical structure of the higher education supply. Without controls, the acceptance rates of both Parisian students and students from the French overseas are lower than those of other students in France. Adding

controls for sociodemographic characteristic and academic performances reduces the gap for French overseas students, but increases it for those from Paris. This is in line with the idea that rates of acceptance reflect selection processes favorable to students with better performances and more privileged backgrounds. Adding distance-weighted measures of the higher education supply decreases the gap for all three groups. Distance has a negative association with acceptance rate and so does the 1st-class honors candidates index. Unsurprisingly, the acceptance rate index has a positive association with the acceptance rate. Those results confirm that students living closer to more diverse, selective or attractive institutions apply to more selective programs. As this relation is not linear, they also invite to look more closely to the mechanisms mediating it.

Table 1: Estimated coefficients from the linear regression on candidates' rate of acceptance

	M1	M2	M3	M4
(Intercept)	59.1***	71.7***	44.3***	44.4***
<b>Region</b>				
Paris	-8.7***	-10.4***	-4.8***	-3.5***
Other Paris region	-8.4***	-7.6***	-3.8***	-3.6***
French overseas	-7.0***	-3.9***	-3.6***	-3.7***
Other France	Ref.	Ref.	Ref.	Ref.
<b>Grant recipient</b>		1.0***	1.0***	1.0***
<b>Birth year</b>				
Before 2001	Ref.	Ref.	Ref.	Ref.
2001		3.5***	3.3***	3.3***
After 2001		0.7***	0.7***	0.7**
<b>Parental occupation</b>				
Education	Ref.	Ref.	Ref.	Ref.
Other high-skilled jobs		-2.8***	-2.5***	-2.5***
Intermediary		1.6***	1.6***	1.6***
Lower-skilled jobs		1.5***	1.4***	1.4***
Other		-1.0***	-1.0***	-1.0***
<b>Baccalaureate distinction</b>				
1 <sup>st</sup> -class honors	Ref.	Ref.	Ref.	Ref.
2 <sup>nd</sup> -class honors		2.0***	1.9***	2.0***
3 <sup>rd</sup> -classe honors		-1.0***	-1.1***	-1.1***
Other		-13.9***	-14.0***	-14.0***
<b>Men</b>		-4.4***	-4.4***	-4.5***
<b>Type of baccalaureate</b>				
General	Ref.	Ref.	Ref.	Ref.
Technical		-11.8***	-11.9***	-11.9***
Vocational		-17.9***	-18.0***	-18.0***
Other		-10.6***	-10.4***	-10.4***
<b>Average distance</b> (hundreds of mn)			-0.3***	-0.3***
<b>Acceptance rate index</b>			0.7***	0.6***
<b>1st-class honors candidates index</b>			-1.0***	-0.8***
<b>Diaspora</b>				0.0***

Source: data from the Parcoursup 2019 application (<http://doi.org/10.34724/CASD.526.3946.V1>)

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