

Multivariate Analysis of Mathematical Entrance Examinations in the Universidad Tecnológica Nacional - Rosario (Argentina).

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1. Introduction

The purpose of this paper is to characterize the applicants for the entrance examination which was held in the year 2001 at the Facultad Regional Rosario of the Universidad Tecnológica Nacional.

2. Admission system

During the year 2000, a course was dictated in the above-mentioned university with the object of levelling the knowledge of the applicants. This course lasted four months, from August to November; the attendance to it was compulsory and the students should take six examinations covering part of the course. The applicants who had passed the examinations entered the university.

At the same time, an alternative method was offered to the students who lived outside the city: they were only asked to sit for the exams.

The students who failed in both cases had the opportunity to sit for another exam on December.

Finally, in order to allow the entrance to those students who did not take the exam or those who had not passed it, there was four possible dates to take the exam in February.

3. Origin and data structure

The total number of 839 applicants was constituted by the students who sat for at least one examination.

We consider sixteen variables:

V_1 : Career.

V_2 : Sex.

V_3 : Residence place.

V_4 : Marital status.

V_5 : Number of working hours.

V_6 : Financing way.

- V₇ : Secondary School degree.
- V₈ : Orientation of Secondary School.
- V₉ : Type of Secondary School.
- V₁₀ : Father' s level of instruction.
- V₁₁ : Mother' s level of instruction.
- V₁₂ : Type of residence.
- V₁₃ : Father' s activity.
- V₁₄ : Mother' s activity.
- V₁₅ : Vocational guidance / training.
- V₁₆ : Final result of the exam.

4. Techniques

It was carried out a multivariate analysis of multiple correspondences and cluster on factorial' s coordinates. These methods enabled us to explore the structure of the information highlighting the most significant characteristics about the interrelation among the variables.

The employment of these techniques is broadly justified since the variables are measured in nominal scale.

5. Discussion

In the typology, which was built out of the socio-economic variables, we found a correspondence between the levels of the parent' s schooling, their occupational category, working situation of the applicants and type of Secondary School. It is also relevant the location of the academic performance, the chosen career and the student' s marital status in connection with the previous typology.

REFERENCES

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FRENCH RÉSUMÉ

Ce travail porte sur les relations entre les caractéristiques socioéconomiques des élèves aspirants à entrer à la Universidad Tecnológica Nacional de Rosario(Rep. Argentina) et ses résultats académiques.

On a utilisé techniques d'analyse des données.