

## Multivariate analysis applied to school achievement in mathematics in the 3rd cycle - a case study

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### Abstract

The objective of the study is to identify factors that may characterize the success or failure of students in mathematics. It also aims to know their opinion about causes of failure and strategies to increase success in this discipline. The study carried out in the academic year 2014/2015, in the 3rd cycle of basic education in Primary and Secondary School Joaquim Inácio da Cruz Sobral in Sobral. The school failure is understood as “the repetition or retention for one or more years during the school career of students” (CNE, 2013: 40). In Portugal, although general school failure as measured by retention rates decreased significantly, still have high values. Currently, there are about 150,000 students who are retained in the same grade. Withholdings begin in very early educational levels and will be accentuated as it advances schooling. Mathematics is one of the subjects that most contributes to the educational failure of many students (Bridge 1988: 10). The research used a questionnaire administered to 200 students covering issues related to the student, the family and the discipline of mathematics. A univariate logistic regression model is tried and all the analysis was performed with IBM SPSS Statistics software, version 22.0, in order to build a model to predict the result of the success / failure of a student in mathematics. The dependent variable of the problem is “reproved ever since the 5th year” reflected in the model as a binary response (yes/no) and the independent variables chosen as candidates to predict failure were sixteen.

**Keywords:** school failure, logistic regression, mathematics.

### References

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