



A STATISTICAL STUDY ON G.C.E. (O/L) RESULTS IN JAFFNA AND VALIKAMAM EDUCATIONAL ZONES

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General Certificate of Education Ordinary level examination is one of the important public examination in Sri Lanka. Student those who have qualified in the above examination can study the G.C.E Advanced Level. A large number of students fail to qualify the above examination. Moreover, even less number of students qualify for the science stream studies in(A/L). The main purpose of this study is to identify the factors that influence both of the above cases(qualifying for A/L and qualifying for A/L science stream) and develop statistical models.

A random sample of 50 schools from the Jaffna and Valikamam educational zones were considered for the study. We have considered all the 3105 students those who have sat for the G.C.E(O/L) examination in the year 2013, from the above sample of 50 schools. The factors such as Gender, Medium of instruction, School category and Type of the school are being considered in this study. School category has been classified as provincial schools and other category schools(National Schools and Private Schools). Moreover, Type of School is being classified as co - educational schools(Mixed school) and non-coeducational schools(Boys school and Girls school). But in our selected area most of the other category schools are non-coeducational schools. Therefore, a relationship might exist between these two factors. A contingency table chi-square test showed a P-value of 0.000 and it is significant.

Therefore, one factor would be redundant for the model. Thus, we end up by considering two models one with type of school as a factor and the other one with category of school as a factor. We end up with two models for each of the two response variables (qualifying for A/L and qualifying for A/L Science Stream). Binary logistic regression models were fitted for the above cases. All four factors are found to be influencing the G.C.E(O/L) performance. As per the medium of instruction, English medium students are performing better than the Tamil medium students. Moreover, other category school students are performing better than the provincial school students. The performance of the non-coeducational students is better than the performance of the coeducational school students.

Keywords: Logistic Regression, Contingency table, Odds Ratio, Goodness of fit, model selection.