MULTIVARIATE REPEATED MEASURES EXPERIMENT AND AN APPLICATION

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Abstract
In this study, an effective analysis approach for factorial experiments with repeated measurements involving $m$ dependent variables is considered. This approach is applied to data concerning the students of the Faculty of Arts and Sciences, Osmangazi University, in order to determine whether time and department effects exist.
In conclusion, it was determined that the benefits that students gain from university life do not differ due to department or department × time interaction, but time (semester) makes a change in the dependent variables.

Keywords: Multivariate repeated measures experiment, Multivariate sphericity, Doubly multivariate model analysis, Multivariate mixed model analysis, Adjusted multivariate mixed model analysis

1. Introduction
In this study, we will investigate the change in the benefits of university life during the first two years by defining the components of benefits. We will try to point out the expected change in the benefits that students gain from university life over time.

The specific purpose of this study is to determine whether there is a difference in the benefits gained from university life among departments or semesters (time) for the students of the Departments of Biology, Physics, Statistics, Chemistry, Mathematics, History and Turkish Language and Literature at the Faculty of Arts and Sciences, Osmangazi University.

In order to highlight the benefits that students gain, a survey entitled “Measuring the benefits of university life from a student’s perspective” was carried out by the students of seven departments during the 1999 – 2000 and 2000 – 2001 academic years.

As seen above, this research is a factorial experiment with two factors, one of which is time with repeated measurements. The collection and the analysis of data were carried out according to Split-Plot in a Completely Random Design.

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