DESCRIPTION

Provides an in-depth treatment of ANOVA and ANCOVA techniques from a linear model perspective

ANOVA and ANCOVA: A GLM Approach provides a contemporary look at the general linear model (GLM) approach to the analysis of variance (ANOVA) of one- and two-factor psychological experiments. With its organized and comprehensive presentation, the book successfully guides readers through conventional statistical concepts and how to interpret them in GLM terms, treating the main single- and multi-factor designs as they relate to ANOVA and ANCOVA.

The book begins with a brief history of the separate development of ANOVA and regression analyses, and then goes on to demonstrate how both analyses are incorporated into the understanding of GLMs. This new edition now explains specific and multiple comparisons of experimental conditions before and after the Omnibus ANOVA, and describes the estimation of effect sizes and power analyses leading to the determination of appropriate sample sizes for experiments to be conducted. Topics that have been expanded upon and added include:

- Discussion of optimal experimental designs
Different approaches to carrying out the simple effect analyses and pairwise comparisons with a focus on related and repeated measure analyses

The issue of inflated Type 1 error due to multiple hypotheses testing

Worked examples of Shaffer's R test, which accommodates logical relations amongst hypotheses

ANOVA and ANCOVA: A GLM Approach, Second Edition is an excellent book for courses on linear modeling at the graduate level. It is also a suitable reference for researchers and practitioners in the fields of psychology and the biomedical and social sciences.

ABOUT THE AUTHOR

Andrew Rutherford, PhD, is Senior Lecturer in the School of Psychology at Keele University (United Kingdom). Dr. Rutherford's research interests include encoding and retrieval processes in recall and recognition and the effect of mild head injury on cognition, as well as general linear modeling.

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