

ETPLAS EU-10 Module – Design of Procedures and Projects, Level 1

Course Contents

PART 1

INTRODUCTION TO EXPERIMENTAL DESIGN

The basic concepts of experimental design

Questions, hypotheses and predictions

Fidelity, discrimination and animal models

VARIABLES

What are variables?

Types of dependent variables

Measuring the effects of an independent variable

VARIABILITY AND EXPERIMENTAL DESIGN

Variability in experimental design

Sources of variability

Why control variability?

CONTROLLING VARIABILITY

Introduction

Randomisation

Blocking

Blinding

Control groups

Variability and animal housing

SAMPLE SIZES

How many animals do we need?

Experimental units

Replication and pseudoreplication

PART 2

Significance and type 1 and 2 errors

Variability and statistical analyses

Types of data and types of analyses

CORRELATIONAL AND MANIPULATIVE STUDY DESIGNS

Correlational designs

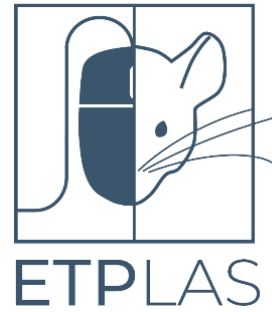
Manipulative designs

FACTORS AND LEVELS

Factors and levels

Including more than one factor

How many levels? How many levels? 100 Percent Complete



FULLY RANDOMISED AND RANDOMISED BLOCK DESIGNS

Fully randomised designs

Randomised block designs

An alternative to blocking - use of covariates

LATIN SQUARES AND FACTORIAL DESIGNS SUBHEADINGS

Latin squares

Factorial designs

REPEATED MEASURES AND CROSSOVER DESIGNS

Within-subjects designs - repeated measures and cross-over designs

Repeated-measures designs

Cross-over design, a more complex example