

STATISTICS & MULTIVARIATE ANALYSIS WITH XLSTAT-BASIC+

INTRODUCTION

- A COUPLE OF DEFINITIONS: INDIVIDUALS, VARIABLES, SAMPLE, POPULATION
- MAKING YOUR DATASET READY FOR ANALYSIS

DESCRIBING DATA

- QUANTITATIVE VARIABLES: MEAN, STANDARD DEVIATION, VARIANCE, MEDIAN, QUANTILES, HISTOGRAMS, BOX PLOTS, SCATTER PLOTS
- QUALITATIVE VARIABLES: FREQUENCIES, MODE, BAR CHART, CROSS TAB

EXPLORING LARGE DATA SETS

- REDUCING DIMENSIONALITY: PRINCIPAL COMPONENT ANALYSIS, CORRESPONDENCE ANALYSIS
- SEGMENTING DATA: AGGLOMERATIVE HIERARCHICAL CLUSTERING, K-MEANS

HYPOTHESIS TESTING

- DEFINING THE NULL HYPOTHESIS, THE P-VALUE AND ERROR RISKS
- PARAMETRIC TESTS ASSUMPTIONS
- PARAMETRIC TESTS VS NONPARAMETRIC TESTS
- ONE-TAILED TESTS VS TWO-TAILED TESTS

MODELING DATA

- LINEAR REGRESSION
- ONE-WAY ANOVA AND MULTIPLE COMPARISONS
- MULTI-WAY ANOVA AND INTERACTION EFFECTS
- ANCOVA

MACHINE LEARNING

- SUPERVISED VS UNSUPERVISED LEARNING
- INTRODUCTION TO SOME SUPERVISED MACHINE LEARNING TECHNIQUES

DEPLOYING R PROCEDURES IN EXCEL

- OVERVIEWING THE XLSTAT-R CODE INFRASTRUCTURE

Prerequisites: BASIC EXPERIENCE IN USING EXCEL