SYMBOLS USED IN THIS BOOK

Mathematical operators

Σ	This symbol (called sigma) means 'add everything up'. So, if you see something like $\sum x_i$ it means 'add up all of the scores you've collected'.
Π	This symbol means 'multiply everything'. So, if you see something like $\prod x_i$ it means 'multiply all of the scores you've collected'.
$\sqrt{x}$	This means 'take the square root of x'.

Greek symbols

α	Alpha, the probability of making a Type I error
β	Beta, the probability of making a Type II error
β_i	Beta, the standardized regression coefficient
ε	Epsilon, usually stands for 'error', but is also used to denote sphericity
η^2	Eta squared, an effect size measure
μ	Mu, the mean of a population of scores
ρ	Rho, the correlation in the population; also used to denote Spearman's correlation coefficient
σ	Sigma, the standard deviation in a population of data
σ^2	Sigma squared, the variance in a population of data
$\sigma_{\bar{X}}$	Another variation on sigma, which represents the standard error of the mean
τ	Kendall's tau (non-parametric correlation coefficient)
ϕ	Phi, a measure of association between two categorical variables, but also used to denote the dispersion parameter in logistic regression
χ^2	Chi-square, a test statistic that quantifies the association between two categorical variables
χ^2_F	Another use of the letter chi, but this time as the test statistic in Friedman's ANOVA, a non-parametric test of differences between related means
ω^2	Omega squared (an effect size measure). This symbol also means 'expel the contents of your intestine immediately into your trousers'; you will understand why in due course

Latin symbols

b_i	The regression coefficient (unstandardized); I tend to use it for any coefficient in a linear model
df	Degrees of freedom
e_i	The error associated with the ith person
F	F-statistic
H	Kruskal–Wallis test statistic
k	The number of levels of a variable (i.e., the number of treatment conditions), or the number of predictors in a regression model
ln	Natural logarithm
MS	The mean squared error (mean square): the average variability in the data
N, n, n_i	The sample size. N usually denotes the total sample size, whereas n usually denotes the size of a particular group
P	Probability (the probability value, p-value or significance of a test are usually denoted by p)
r	Pearson's correlation coefficient
r_s	Spearman's rank correlation coefficient
r_b, r_{pb}	Biserial correlation coefficient and point-biserial correlation coefficient, respectively
R	The multiple correlation coefficient
R^2	The coefficient of determination (i.e., the proportion of data explained by the model)
s	The standard deviation of a sample of data
s^2	The variance of a sample of data
SS	The sum of squares, or sum of squared errors to give it its full title
SS_A	The sum of squares for variable A
SS_M	The model sum of squares (i.e., the variability explained by the model fitted to the data)
SS_R	The residual sum of squares (i.e., the variability that the model can't explain – the error in the model)
SS_T	The total sum of squares (i.e., the total variability within the data)
t	Testicle statistic for a t-test. Yes, I did that deliberately to check whether you're paying attention
T	Test statistic for Wilcoxon's matched-pairs signed-rank test
U	Test statistic for the Mann–Whitney test
W_s	Test statistic for Rilcoxon's wank-sum test. See what I did there? It doesn't matter because no one reads this page
$\overline{X}$	The mean of a sample of scores
z	A data point expressed in standard deviation units