

1. Record Nr.	UNINA9911009339403321
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Titolo	Beyond the T-Test // by Scott A. Pardo
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2025
ISBN	3-031-84479-3
Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (329 pages)
Disciplina	300.727
Soggetti	Social sciences - Statistical methods Machine learning Stochastic models Statistics in Social Sciences, Humanities, Law, Education, Behavioral Sciences, Public Policy Statistical Learning Stochastic Modelling in Statistics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 1. Populations, Samples, Parameters, and Statistics -- Chapter 2. Some Probability Concepts -- Chapter 3. Estimation, Hypothesis Testing and the Scientific Method -- Chapter 4. Binary Random Variables and Acceptance Sampling Plans -- Chapter 5. Continuous Variables, the Normal Distribution, and the Central Limit Theorem -- Chapter 6. Continuous Variables and Acceptance Sampling Plans -- Chapter 7. Confidence -- Chapter 8. Some Confidence Interval Computations, Including Bootstrapping -- Chapter 9. Linear Regression, Correlation, and Least Squares -- Chapter 10. Analysis of Variance -- Chapter 11. Poisson and Exponential Variables, Rate, and Time-to-Event -- Chapter 12. 2k Factorial Experiments -- Chapter 13. Nonparametric Methods – Rank-Based Tests, Permutation Tests and Resampling Methods -- Chapter 14. Nonlinear and Logistic Regression -- Chapter 15. Model Building -- Chapter 16. Multivariate Analysis -- Chapter 17. Bayesian Methods – Markov Chain Monte Carlo Approach -- Chapter 18. Machine Learning and Data-Intensive Methods -- Chapter 19. Time Series and Dynamic Systems -- Index.
Sommario/riassunto	This book was inspired by years of questions asked by non-statistical

professionals, from social scientists, public policy analysts, regulatory affairs specialists, engineers, and physical scientists. It provides them with both an intuitive explanation of many common statistical methods and enough mathematical background to help them justify those methods to others, such as regulatory agencies. It provides an introduction to commonly used methods that are not covered in a first elementary statistics course, such as partial least squares, MCMC, and neural networks. It also provides R code for making all the computations described in the text. As a textbook, it could be used as a second course in statistics for non-statisticians, in fields such as social sciences, public policy, engineering, chemistry, and physics. Many first-year graduate students have had an elementary statistics course, but were not exposed to enough of the mathematics to justify the application of those methods. Furthermore, they often encounter methods and concepts not touched upon in their first statistics course. This book provides the tools required to give a deeper understanding of statistical methods without being all about theorems and proofs.
