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Titolo	A Course in Rasch Measurement Theory [[electronic resource]] : Measuring in the Educational, Social and Health Sciences / / by David Andrich, Ida Marais
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Soggetti	Education - Research
	Sociology - Methodology
	Social sciences - Statistical methods
	Educational tests and measurements
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	Research - Methodology
	Research Methods in Education
	Sociological Methods
	Statistics in Social Sciences, Humanities, Law, Education, Behavorial Sciences, Public Policy
	Assessment and Testing
	Research Skills
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	PART A: General principles and the dichotomous Rasch model -- Chapter 1: The idea of measurement -- Chapter 2: Constructing instruments to achieve measurement -- Chapter 3: Classical test theory (CTT) -- Chapter 4: Reliability and validity in CTT -- Chapter 5: The Guttman structure and analysis of responses -- Chapter 6: The dichotomous Rasch model - The simplest modern test theory model -- Chapter 7: Invariance of comparisons - Separation of person and item parameters -- Chapter 8: Sufficiency - The significance of total scores -- Chapter 9: Estimating item difficulty -- Chapter 10: Estimating person proficiency and person separation -- Chapter 11: Equating - Linking instruments through common items -- Chapter 12:

Comparisons and contrasts between CTT and Rasch measurement theory (RMT) -- PART B: The dichotomous Rasch model: Fit of responses to the model -- Chapter 13: Fit of responses to the model I - Item characteristic curve and Chi-square tests of fit -- Chapter 14: Violations of the assumption of independence I - Multidimensionality and response dependence -- Chapter 15: Fit of responses to the model II - Analysis of residuals and general principles -- Chapter 16: Fit of responses to the model III - Differential item functioning -- Chapter 17: Fit of responses to the model IV - Guessing -- Chapter 18: Other models of modern test theory for dichotomous responses -- Chapter 19: Comparisons and contrasts between item response theory (IRT) and RMT -- PART C: Extending the dichotomous Rasch model: The polytomous Rasch model -- Chapter 20: The polytomous Rasch model I -- Chapter 21: The polytomous Rasch model II -- Chapter 21: The polytomous Rasch model II -- Chapter 21: The polytomous Rasch model II -- Chapter 24: Violations of the assumption of independence II – The polytomous Rasch model -- Part D: Theoretical justifications and further elaborations -- Chapter 25: Derivation of CTT equations and coefficient -- Chapter 26: Analysis of more than two facets and repeated measures -- Chapter 27: Derivation of the threshold form of the polytomous Rasch model -- Chapter 28: Non-Rasch measurement models for ordered response categories -- Chapter 29: Review of principles of test analysis using Rasch measurement theory -- Part E: RUMM2030 Exercises -- Exercise 1: Interpretation of RUMM2030 printout -- Exercise 2: Basic analysis of dichotomous and polytomous responses -- Exercise 3: Advanced analysis of dichotomous responses -- Exercise 4: Advanced analysis of polytomous responses -- Exercise 5: Analysis of data with differential item functioning -- Exercise 6: Analysis of data with dependence -- Exercise 7: Analysis of more than two facets and repeated measurements -- Exercise 8: Writing up a Rasch model analysis -- Part F: Statistics Reviews -- Statistics Review 1: Sigma notation, mean, and variance -- Statistics Review 2: Normal distribution -- Statistics Review 3: Covariance and the variance of the sum of two variables -- Statistics Review 4: Regression and correlation -- Statistics Review 5: Probability -- Statistics Review 6: Indices -- Statistics Review 7: Logarithms -- Statistics Review 8: Conditional probability -- Statistics Review 9: Independence -- Statistics Review 10: Bernoulli and Binomial variables -- Statistics Review 11: The Chi-square distribution and test -- Statistics Review 12: Analysis of variance (ANOVA) -- Statistics Review 13: Distribution theory -- Statistics Review 14: Basic distributions for tests of fit -- Statistics Review 15: Odds and ratios.

| Sommario/riassunto | This book applies Rasch measurement theory to the fields of education, psychology, sociology, marketing and health outcomes in order to measure various social constructs. The chief focus is on first principles of both the theory and its applications. Because software is readily available to carry out analyses of real data, numerous small examples are provided in the book. The software used in these examples, and which is helpful in working through the text, is RUMM2030 (Rasch unidimensional models for measurement). The book's main goals are to equip researchers with the confidence they need in order to be in control of the analysis and interpretation of data, and to make professional rather than primarily statistical decisions mechanically. Because statistical principles are necessarily involved, reviews of the requisite statistics are provided in the Appendix. The content is based on courses that have been taught both online and in intensive form for over two decades. Although first principles are emphasised, much of the book is based on research conducted by the two authors and their |

colleagues.