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Sommario/riassunto

"To date, much of the application of IRT has been in the field of educational measurement, where for example, IRT has been used extensively by the Educational Testing Service for the development of scholastic aptitude tests. IRT has played a major role in all major college and graduate school admission tests (SAT, ACT, GRE, GMAT, MCAT, ...). Unlike traditional tests based on classical test theory that summarize the test result by a simple counting operation of number of correct responses, IRT provides model-based measurements in which the difficulty of the items, discrimination of high and low levels of the underlying latent variable(s) and the corresponding ability of the respondents can be estimated. In IRT scoring of tests, a certain number of items can be arbitrarily added, deleted, or replaced without losing comparability of scores on the scale. Only the precision of measurement at some points on the scale is affected. This property of scaled measurement, as opposed to counts of events, is the most salient advantage of IRT over classical methods of educational and psychological measurement. The evolution of IRT is now going beyond educational measurement. Recent advances in multidimensional extensions of IRT and computerized adaptive testing are leading to major advances in patient reported outcome measures of physical and emotional well being. In mental health research, IRT is now leading to a major paradigm shift in the screening and measurement of mental health disorders, substance abuse and suicidality, one of the leading causes of death in the world. Multidimensional IRT extends the tools used to evaluate essentially unidimensional constructs such as mathematical ability to the measurement of complex traits such as depression, anxiety and psychosis. In the next five years we expect that the use of multidimensional IRT for the measurement of complex traits will extend to other areas of health sciences and to problems in marketing research and practice where rapid adaptive tests administered through the internet will be able to precisely measure consumer affinity for different products, events, and market sectors. The methods described in this book will provide the foundation for these future developments"--
