

1. Record Nr.	UNINA9910781959603321
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Titolo	Measurement in medicine : a practical guide / / Henrica C.W. de Vet, Caroline B. Terwee, Lidwine B. Mookink, Dirk L. Knol
Pubbl/distr/stampa	Cambridge : , : Cambridge University Press, , 2011
ISBN	9780511996214 1107212987 113913986X 1283316552 9786613316554 1139139096 1139144871 1139140671 1139137549 0511996217 1139141554
Descrizione fisica	1 online resource (x, 338 pages) : digital, PDF file(s)
Collana	Practical guides to biostatistics and epidemiology
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Disciplina	610.72/4
Soggetti	Medicina clínica - Mètodes estadístics Assistència sanitària - Avaluiació - Metodologia Psicometria Medical care - Evaluation - Methodology Clinical medicine - Statistical methods
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Title from publisher's bibliographic system (viewed on 05 Oct 2015).
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Cover; Title; Copyright; Contents; Preface; 1 Introduction; 1.1 Why this textbook on measurement in medicine?; 1.2 Clinimetrics versus psychometrics; 1.3 Terminology and definitions; 1.4 Scope of measurements in medicine; 1.5 For whom is this book written?; 1.6 Structure of the book; 1.7 Examples, data sets, software and assignments; 2 Concepts, theories and models, and types of measurements; 2.1 Introduction; 2.2 Conceptual models; 2.3 Characteristics of measurements; From diagnosis to outcome

measurements; From clinician-based to patient-based measurements
 From objective to subjective measurements
 From unidimensional to multidimensional characteristics; From observable to non-observable characteristics; 2.4 Conceptual framework: reflective and formative models; 2.5 Measurement theories; 2.5.1 Classical test theory; 2.5.2 Item response theory; 2.6 Summary; Assignments; 1. Outcome measures in a randomized clinical trial; 2. What is the construct?; 3. Item response theory; 3 Development of a measurement instrument; 3.1 Introduction; 3.2 Definition and elaboration of the construct to be measured; 3.2.1 Construct; 3.2.2 Target population; 3.2.3 Purpose of measurement; 3.3 Choice of measurement method; 3.4 Selecting items; 3.4.1 Getting input for the items of a questionnaire: literature and experts; 3.4.1.1 Literature; 3.4.1.2 Experts; 3.4.1.3 An example of item selection for a patient-reported outcomes instrument; 3.4.1.4 An example of item selection for a non-patient-reported outcomes instrument; Summing up with or without using weights; 3.4.2 Formulating items: first draft; 3.4.3 Things to keep in mind; 3.5 Scores for items; 3.5.1 Scoring options; 3.5.2 Which option to choose?; 3.6 Scores for scales and indexes; 3.6.1 Summarizing scores in reflective models; Summing up with or without using weights; 3.6.2 Summarizing scores in formative models; 3.6.3 Weighted scores; 3.6.3.1 How and by who are weights assigned; Judgemental weights; Empirical weights; 3.6.3.2 Preference weighting or utility analysis; 3.6.3.3 Alternative methods; 3.7 Pilot-testing; 3.7.1 Pilot-testing of patient-reported outcomes instruments; 3.7.2 Pilot-testing of non-patient-reported outcomes instruments; 3.8 Summary; Assignments; 1. Definition of a construct; 2. Choice between objective and subjective measurements; 3. Choice between a reflective and a formative model; 4. Cross-cultural adaptation of an item; 5. Use of sum-scores; 4 Field-testing: item reduction and data structure; 4.1 Introduction; 4.2 Examining the item scores; 4.2.1 Missing scores; 4.2.2 Distribution of item scores; 4.3 Importance of the items; 4.4 Examining the dimensionality of the data: factor analysis; 4.4.1 Principles of exploratory factor analysis; 4.4.2 Determining the number of factors; 4.4.2.1 Step 1: correlation of items; 4.4.2.2 Step 2: the number of factors to be extracted; 4.4.3 Rotation and interpreting the factors; 4.4.3.1 Step 3: rotation

Sommario/riassunto

The success of the Apgar score demonstrates the astounding power of an appropriate clinical instrument. This down-to-earth book provides practical advice, underpinned by theoretical principles, on developing and evaluating measurement instruments in all fields of medicine. It equips you to choose the most appropriate instrument for specific purposes. The book covers measurement theories, methods and criteria for evaluating and selecting instruments. It provides methods to assess measurement properties, such as reliability, validity and responsiveness, and interpret the results. Worked examples and end-of-chapter assignments use real data and well-known instruments to build your skills at implementation and interpretation through hands-on analysis of real-life cases. All data and solutions are available online. This is a perfect course book for students and a perfect companion for professionals/researchers in the medical and health sciences who care about the quality and meaning of the measurements they perform.
