Measurement in Sport and Exercise Psychology.

By Gershon Tenenbaum, Robert C. Eklund, and Akihito Kamata. Copyright 2012 by Human Kinetics, P.O. Box 5076, Champaign, IL 61825-5076 ($89.00, 551 pp.).

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Measurement in Sport and Exercise Psychology is a much-needed text that provides scholars and practitioners alike with a comprehensive resource for the tools and methodologies utilized in sport and exercise psychology research. As leading researchers in the field, the editors bring a vast and varied expertise to the information found in the text. Tenenbaum is a professor of educational psychology at Florida State University and is widely published in the domain of measurement and statistical methods in sport and exercise psychology. Eklund, also at Florida State University, is a professor of sport psychology and was recently named the Mode L. Stone Distinguished Professor of Sport Psychology. Kamata is a professor of psychometrics and educational measurement in the department of educational methodology, policy, and leadership at the University of Oregon. In addition to the editors, many of the chapters are written by a carefully selected team of respected scholar-contributors who add to the range and depth of this valuable resource.

The introduction section of this book (Chapters 1 and 2) presents a history of the measurement tools utilized in sport and exercise psychology research as well as a thorough description of major theories and measurement issues. The second chapter, in particular, is insightful as it chronicles selected publications across the history of the field, providing a nice foundation for readers. As noted on page 9, developments in educational and psychological measurement are summarized first, since these fields “often serve as the parent fields for sport and exercise psychology.”

Part I (Chapters 3 through 8) provides a comprehensive summary of measurement techniques that may be particularly useful for sport and exercise behavioral researchers. Starting with a discussion of basic reliability and validity in Chapters 3 and 4, Chapter 5 then compares Classical Test Theory with Item Response Theory (IRT). As the authors note, IRT has enjoyed a rise in popularity among research psychologists in the last 20 years. This method accounts for the qualities of both the individual completing a questionnaire or test item, and the item itself. For example, exam items may vary in difficulty, while individual test takers may also differ in their preparation and ability. The text benefits from its coverage of these techniques, and the authors also devote a separate chapter to one particularly popular subset of IRT, the Rasch model.

Chapter 6, titled “factorial invariance”, covers factor analysis and latent variable modeling methods. Prior to delving into this section, readers with little experience with statistics might consider brushing up on their knowledge of these techniques (e.g., Tabachnick & Fidell, 2006). Although this chapter could seem difficult for a
beginner, the author (Ryne Estabrook, Ph.D., Virginia Commonwealth University) does a nice job of describing the basics of these methods in relatively few pages. In his coverage of structural equation modeling (SEM), Estabrook relies heavily on the work of Meredith (1993). SEM is composed of linear regressions between factors; thus, a full “model” includes the equations that compose each factor analysis in addition to the regression equations linking the factors. Different ways exist to organize these sets of equations into one SEM, while ultimately arriving at the same answer. Meredith’s (1993) framework and notation contrasts the popular Bentler-Weeks model (1979); those who learned SEM by way of the latter method might benefit from a review of this alternate method of organization before proceeding. Building upon this, Chapter 7 of the text covers growth curve modeling, another latent variable method. Taken together, these chapters provide a good, short summary of a few of the more advanced techniques in behavioral measurement in a relatively accessible way.

The text also discusses a number of alternatives to traditional quantitative measurement in sport, including dynamic assessments, verbal reports of cognitive processes, and other qualitative approaches. Chapter 14, in particular, provides a discussion of cultural sport psychology and the special measurement considerations therein. Included are examples of the unique measurement challenges that researchers have faced when conducting a range of recent studies in sport and exercise. For instance, the Scandinavian Project on Athletic Talent Development (Henriksen, Stambulova, & Roessler, 2010) called for a holistic approach that considered the unique challenges athletes faced inside and out of the sport context, including those stemming from school, family and local culture. Another example is presented as one of the authors’ (Robert J. Schinke, Ed.D., Laurentian University) personal reflections in working with Canadian Aboriginal athletes in Northern Ontario. These athletes felt pressure to adapt to mainstream society through sport; as Schinke writes, “the questions posed through the project allowed the participants to convey, based on their firsthand experiences, how mainstream sport experiences at the elite level can silence athletes from minority or marginalized groups.”

Parts II and III of the text do an excellent job of providing a common structure through which the above measurement techniques may be applied to the various content areas within sport and exercise psychology. These sections encompass a discussion of commonly used constructs and inventories in three major areas: 1) cognition, perception, and motivation, 2) emotion and coping, and 3) social and behavioral psychology. Each chapter within these sections covers key measurement variables and concepts, an evaluation of the measurement constructs and tools available, and an explanation of controversies found within each topic. The text also includes access to an online resource that contains 14 measurement instruments, this resource also includes the online resource contains additional web links to original source information for those tools not available online.

Overall, this initial edition of Measurement in Sport and Exercise Psychology is a valuable and user-friendly contribution to the field of sport and exercise psychology. The text separates itself from comparable books by positioning itself as a “go to” resource that supports researchers in evaluating the effectiveness of specific measurement tools, determining the strengths and limitations of each tool, and discovering which tools are best suited to their research projects. Furthermore, the evaluation tools discussed have been validated in the context of the field’s most respected researchers and are based on past and current research practices. By providing an in-depth overview of each measurement tool, this text supports researchers in evaluating the