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Licensure Testing: Purposes, Procedures, and Practices

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### Preface- Licensure Testing: Purposes, Procedures, And Practices

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# Preface

This book represents a unique effort for the Buros Institute of Mental Measurements and the Buros-Nebraska Series on Measurement and Testing. All of the previous books in this series have been associated with a symposium sponsored by the Buros Institute of Mental Measurements and the University of Nebraska. This book is “free standing” in that it is an independent effort intended to fulfill a perceived need for a book, but without preceding the book with a symposium. There are few books devoted solely to the topic of licensure testing, but each state and the federal government is involved in this form of testing. Licensure testing is far too important to be undertaken casually, because it is big business and it has implications and consequences for thousands of people annually. Every author in this book is involved in some way with licensure testing. Some authors work for professional organizations that are responsible for development of licensure tests. Other authors work for companies that contract with licensure boards to develop licensure tests. The rest serve as consultants to one or more licensure boards to assist in the development and maintenance of licensure testing programs.

The intent of this book is to provide licensure board members with practical information that will help them to understand and carry out their measurement related responsibilities. Many licensure boards employ consultants to assist in developing or selecting measures to use in making the licensure decision. They employ such consultants for a number of reasons (e.g., because they do not have large numbers of employees who are trained in test development, because the occupations they are charged with regulating may have only small numbers of applicants, or because they have little funding and must issue licenses based on results of tests developed by national professional organizations). The reason for employing outside consultants is not really material, the board is the legally responsible agent and the board must make decisions about the test. This book is intended to help board members make such decisions.

This book is also intended to aid measurement consultants by providing them with specific information written in the context of licensure testing. This book provides some technical guidance useful in the development of licensure tests. Most chapters contain some technical content (especially the chapters in Part Two); however, there was an attempt to make most of the content readable by board members while providing measurement consultants with guidelines and references that will assist them in their consulting role.

All the authors in this book tried to walk a fine line between writing for board members and for measurement experts alike. I hope we have achieved that end.

The book is divided into three parts: Part One addresses the purposes for licensure and it includes discussion of legal and policy issues in licensure. The contents of the three chapters in Part One represent essential knowledge for licensure board members. These three chapters constitute the basis for licensure testing and are entirely non-technical. Part Two provides the details of setting up and operating a licensure testing program. This part represents the bulk of the book and it consists of the rationale for the various steps involved in developing a licensure test and those activities necessary for operating an ongoing licensure testing program. It provides the licensure board member with an understanding of why certain activities must be undertaken (such as a job analysis and conducting an analysis of differential item functioning for different candidate populations) and it contains information helpful in making decisions about such issues as which testing strategies and which methods of setting the cut score are most appropriate under different conditions. The basis for doing many of the technical tasks is also explained in ways a board member can understand. The measurement consultant will also appreciate this part of the book. It provides the details and rationale for undertaking many of the technical steps used in developing and maintaining a licensure testing program. It does not always go into the level of detail necessary for the measurement expert, but when that level of detail is missing the reference list should provide citations to aid the expert. In Part Three some futuristic looks at the practice of licensure testing are taken.

Part One begins with Kara Schmidt's chapter in which she defines licensure, with its emphasis on protecting the public, and differentiates it from certification and registration. She characterizes the history of the licensure process and gives examples of different legislative approaches to licensure. Schmidt reminds us that licensure is a responsibility of state government, except for those few occupations licensed by the federal government (e.g., merchant marine officers, pilots, and nuclear power plant operators).

William Mehrens describes the legal bases for licensure testing. He describes several sets of guidelines for testing that are recommended by various professional organizations. In this discussion he characterizes the relevant guidelines that are intended to drive the development of licensure examinations and he differentiates between licensure testing and employment testing. Mehrens cites case law to describe various requirements in licensure and he provides illustrations of board responsibilities as described by the courts. His examples come from a variety of occupations, but most are from education where much confusion occurs in the certification (or licensure) of teachers.

Chapter 3, by Rosenfeld, Tannenbaum, and Wesley, discusses in detail three issues of extreme importance: making necessary accommodations required by the Americans with Disabilities Act (ADA); testing repeaters (those who fail the licensure test the first time), and coaching for licensure examinations. Their insightful comments and analyses of various research activities provide much useful information about the implications of these issues on the licensure testing process.

Part Two begins with a concise overview of the licensure testing process. In this overview, I attempt to provide an advanced organizer for the remainder of the book. The overview does not summarize each chapter; instead it attempts to provide the overarching framework for developing and administering a licensure testing program that is detailed in each of the subsequent chapters.

Chapter 4, by Joan and Lenora Knapp, details the rationale and processes by which a practice analysis is undertaken. Practice analysis (often called job analysis) is a critical step in the licensure testing process. The entire test is constructed on the basis of this analysis.

Because the practice analysis represents the basis for establishing the content of the test, the next two chapters describe different types of testing strategies. In chapter 5, LaDuca, Downing, and Henzel focus mainly on multiple-choice and other selected response items. They describe the relevance of the practice analysis to item content and they provide several illustrations of the method used in many medical contexts to develop items that represent the practice analysis for the licensure examination for physicians. They also describe several different types of selected response items and discuss conditions when the different item types are most useful. In chapter 6 Fortune and Cromack provide detailed illustrations for developing clinical examinations. Their examples are drawn from several licensure testing settings. Their approach reflects how boards can reduce many complex tasks into items that can be reliably scored and provide valid interpretations.

The psychometric properties of reliability and validity of the scores, and of the decisions made from the licensure examination scores are critical elements. Stoker and Impara's chapter on basic psychometric issues follows the development of test items. This chapter defines reliability and validity, and it describes techniques for conducting reliability and validity studies. In addition to defining the terms and describing how to estimate these properties of the test scores, we provide information to help in selecting appropriate methods for estimating reliability and validity.

In chapter 8, Bergstrom and Gershon provide a comprehensive discussion of the advantages of developing a computerized item bank. The computer software requirements are described as are the kinds of information that should be contained in the typical item bank. Using the item bank to undertake test construction is also described.

A major concern for all tests, and particularly tests used to make critical decisions about people, is the fairness of the items for the examinee population. Plake provides descriptions of how to assess if the items function differently for different groups of examinees. In her chapter she defines the concept of differential item functioning (DIF)—the assessment of whether examinee performance is

biased based on such factors as gender or race. She also outlines several methods for detecting differential item functioning.

Chapter 10 redirects the focus from item development, item characteristics, and item banking to issues associated with the overall test. Once tests are developed it is necessary to determine the performance standard (the cut score) that will be used to make the distinction between those who are licensed and those who are not licensed. Mills describes several ways to set the cut score and he discusses the advantages of the various methods as they apply to a typical licensure examination. He also discusses several recently developed methods for setting cut scores for complex performance tests (e.g., portfolios). Mills then details several procedures one might use to conduct a cut-score study and how “adjustments” in the cut score might be undertaken if they are deemed appropriate.

Another issue associated with fairness to examinees is ensuring that the licensure decision is a function of the candidate’s level of knowledge, skills, and abilities and is not dependent on the particular version of the test that was taken. Shea and Norcini discuss both traditional and contemporary methods of equating different forms of tests. They also describe a variety of software that can be used to perform the test equating process.

Section Three summarizes current practices and indicates how these practices might influence emerging trends in licensure testing. Vale’s discussion of computers in licensure testing describes several uses of the computer, including his perspective that computer adaptive testing in licensure testing is not highly efficacious.

Chapter 14 looks across the various components of the process of licensure testing and projects how these components might change over the next few years. Nettles recognizes the importance of stability in the process of licensure testing and, while predicting some important changes, implies that change may occur slowly in licensure testing.

Licensure testing is different from much other testing that occurs in the United States. Few other testing activities carry the burden that licensure testing does. Persons’ careers depend on the results of licensure tests. This is not the case in most instances of educational testing, nor is it the case in many instances of certification or employment testing. For these reasons licensure boards have particularly difficult jobs. One of the dilemmas they face is to make certain that the public is protected by setting high performance standards for licensure, while at the same time making certain that licensure candidates are protected by setting high standards for the psychometric quality of the tests used to make licensure decisions. I hope this book helps board members and psychometric consultants make licensure tests be of the highest psychometric quality.

James C. Impara  
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