

UNDERSTANDING
PSYCHOSOCIAL
ADJUSTMENT TO
CHRONIC ILLNESS
AND DISABILITY

A HANDBOOK FOR
EVIDENCE-BASED
PRACTITIONERS IN
REHABILITATION

FONG CHAN

ELIZABETH DA SILVA CARDOSO

JULIE A. CHRONISTER

EDITORS

Understanding Psychosocial Adjustment to Chronic Illness and Disability

A Handbook for
Evidence-Based
Practitioners in
Rehabilitation

Editors

- Fong Chan, PhD
- Elizabeth da Silva Cardoso, PhD
- Julie A. Chronister, PhD

Fong Chan, PhD, is a professor and director of clinical training (PhD Program) in the Department of Rehabilitation Psychology and Special Education, University of Wisconsin–Madison. Dr. Chan is a licensed psychologist and a Certified Rehabilitation Counselor. He is also a Fellow in the American Psychological Association and a National Institute on Disability and Rehabilitation Research Distinguished Research Fellow. From 1995 to 1999, he also served as Director of Research for the Foundation for Rehabilitation Education and Research, which provides research support for the Commission on Rehabilitation Counselor Certification, the Certification of Disability Management Specialists Commission, and the Commission for Case Manager Certification. He is also the editor of two textbooks, *Case Management for Rehabilitation Health Professionals* and *Counseling Theories and Techniques for Rehabilitation Health Professionals*.

Elizabeth da Silva Cardoso, PhD, received her doctorate in Rehabilitation Counseling Psychology from University of Wisconsin–Madison in 1997. She is an associate professor in the Department of Educational Foundations and Counseling Programs, Hunter College, City University of New York. She is a licensed psychologist and completed a one-year predoctoral psychology internship at Harvard University's McLean Hospital and a postdoctoral psychology fellowship at Yale University's Yale Psychiatric Institute. She served as the President of the New York State Rehabilitation Counseling Association in 2002 and is currently on the executive board of the National Council on Rehabilitation Education and on the APA Committee on Disability Issues in Psychology.

Julie A. Chronister, PhD, is an assistant professor and rehabilitation counselor training program faculty member in the Department of Counseling at San Francisco State University. She received her PhD in Rehabilitation Psychology from the University of Wisconsin–Madison. She is an editorial consultant/reviewer for five rehabilitation and allied health peer-review journals and served as the President of the New York State Rehabilitation Counseling Association in 2005–2006. Dr. Chronister has worked in the field of rehabilitation counseling for over 15 years in a number of capacities including rehabilitation counselor, community-based program director, and rehabilitation counseling faculty.

Copyright © 2009 Springer Publishing Company, LLC

All rights reserved.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior permission of Springer Publishing Company, LLC, or authorization through payment of the appropriate fees to the Copyright Clearance Center, Inc., 222 Rosewood Drive, Danvers, MA 01923, 978-750-8400, fax 978-646-8600, info@copyright.com or on the web at www.copyright.com.

Springer Publishing Company, LLC
11 West 42nd Street
New York, NY 10036
www.springerpub.com

Acquisitions Editor: Sheri W. Sussman

Cover Design: Steven Pisano

Composition: Six Red Marbles

Ebook ISBN: 978-0-8261-2387-9

09 10 11 / 5 4 3 2 1

Library of Congress Cataloging-in-Publication Data

Chan, Fong.

Understanding psychosocial adjustment to chronic illness and disability : a handbook for evidence-based practitioners in rehabilitation / Fong Chan, Elizabeth da Silva Cardoso, Julie A. Chronister.

p. cm.

Includes bibliographical references and index.

ISBN 978-0-8261-2386-2 (alk. paper)

1. People with disabilities—Psychology. 2. Chronic diseases—Psychological aspects. 3. People with disabilities—Rehabilitation. I. Cardoso, Elizabeth da Silva. II. Chronister, Julie A. III. Title.

BF727.P57.C43 2009

362.4--dc22

2009015793

Printed in the United States of America by Hamilton Printing

The author and the publisher of this Work have made every effort to use sources believed to be reliable to provide information that is accurate and compatible with the standards generally accepted at the time of publication. The author and publisher shall not be liable for any special, consequential, or exemplary damages resulting, in whole or in part, from the readers' use of, or reliance on, the information contained in this book. The publisher has no responsibility for the persistence or accuracy of URLs for external or third-party Internet Web sites referred to in this publication and does not guarantee that any content on such Web sites is, or will remain, accurate or appropriate.

Contents

| | |
|--------------------|----|
| Contributors | xi |
| Preface | xv |

Part I: Introduction

| | | |
|-----------|--|----|
| Chapter 1 | An Introduction to Evidence-Based Practice Approach to Psychosocial Interventions for People with Chronic Illness and Disability | 3 |
| | <i>Fong Chan, Julie Chronister, and Elizabeth da Silva Cardoso</i> | |
| | Evidence-Based Practice | 5 |
| | Concluding Remarks | 16 |

Part II: Psychosocial Adjustment to Chronic Illness and Disability: Concepts, Models, and Research

| | | |
|-----------|--|----|
| Chapter 2 | The World Health Organization ICF Model as a Conceptual Framework of Disability | 23 |
| | <i>Fong Chan, Joy Sasson Gelman, Nicole Ditchman, Jeong-Han Kim, and Chung-Yi Chiu</i> | |
| | Models of Disability | 24 |
| | The World Health Organization ICF Model of Disability | 28 |
| | Issues Related to Measuring Participation | 39 |
| | Implications for Rehabilitation | 44 |
| | Concluding Remarks | 46 |

| | | |
|---|---|-----|
| Chapter 3 | Psychosocial Adaptation to Chronic Illness and Disability: Models and Measurement | 51 |
| | <i>Susan Miller Smedema, Shana K. Bakken-Gillen, and Jacquelyn Dalton</i> | |
| | Models of Adaptation | 52 |
| | Empirical Evidence | 59 |
| | Clinical Applications | 64 |
| | Measurement | 66 |
| | Summary | 68 |
| Chapter 4 | Models, Research, and Treatment of Coexisting Depression for People with Chronic Illness and Disability | 75 |
| | <i>Eun-Jeong Lee, Fong Chan, Julie Chronister, Jacob Yui-Chung Chan, and Maria Romero</i> | |
| | DSM-IV Criteria for Clinical Depression | 77 |
| | Biological Mechanisms of Depression | 78 |
| | Cognitive Theories of Depression | 80 |
| | Measurement | 88 |
| | Psychological Treatment of Depression | 92 |
| | Implications | 96 |
| Part III: Relevant Mediators and Moderators of Psychosocial Adjustment to Chronic Illness and Disability | | |
| Chapter 5 | Coping and Rehabilitation: Theory, Research, and Measurement | 111 |
| | <i>Julie Chronister, Erica Johnson, and Chen-Ping Lin</i> | |
| | Theoretical Review | 113 |
| | Evidence Base | 121 |
| | Measurement | 131 |
| | Application to Rehabilitation | 136 |
| | Conclusion | 140 |
| Chapter 6 | Social Support and Rehabilitation: Theory, Research and Measurement | 149 |
| | <i>Julie Chronister</i> | |
| | Conceptual and Theoretical Review | 153 |
| | Evidence | 158 |
| | Measurement | 164 |

Application to Rehabilitation Professionals 170
 Conclusion 174

Chapter 7 Family and Adaptation to Chronic Illness and Disability 185
David A. Rosenthal, John Kosciulek, Gloria K. Lee, Michael Frain, and Nicole Ditchman
 Impact of Chronic Illness and Disability on the Family 186
 Theoretical Frameworks of Family Adaptation to Chronic Illness and Disability 188
 Adaptation Phase of the Resiliency Model 190
 Family Intervention Strategies 195
 Concluding Remarks 200

Part IV: Intervention Strategies

Chapter 8 Positive Psychology and Psychosocial Adjustment to Chronic Illness and Disability 207
Chih Chin Chou, Eun-Jeong Lee, Denise Catalano, Nicole Ditchman, and Lisa M. Wilson
 Strength-Based Intervention 208
 The Positive Psychology Movement 211
 Related Positive Psychology Theories, Models, and Constructs 215
 The Integration of the Strength Focus of Rehabilitation Psychology with Positive Psychology 220
 Review of Selected Positive Psychology Measurements 223
 Review of Positive Psychology Intervention Approaches 228
 Empirical Research of Positive Psychology in Rehabilitation 231
 Conclusion 233

Chapter 9 Application of Self-Efficacy Related Theories in Psychosocial Interventions 243
Chih Chin Chou, Nicole Ditchman, Steve R. Pruett, Fong Chan, and Celeste Hunter
 Social Cognitive Theory 244
 Stages of Change Model 247

| | | |
|---|---|------------|
| | Skills Training | 255 |
| | Motivational Interviewing | 261 |
| | Concluding Remarks | 268 |
| Chapter 10 | Wellness and Promotion of Health in Chronic Illness and Disability: Theoretical and Practical Models for Assessment and Intervention | 277 |
| | <i>Ruth Torkelson Lynch and Chung-Yi Chiu</i> Theoretical Constructs of Health Beliefs and Health Promotion | 281 |
| | Assessment of Health Beliefs, Health Behavior, and Health Promotion Outcomes | 286 |
| | Health Promotion and Wellness Interventions for Persons with Chronic Illness and Disability | 297 |
| Chapter 11 | Psychopharmacology: A Review of Current Treatment Options | 307 |
| | <i>Susan Gallagher-Lepak, Janet Reilly, Alyce Keith, and Suzanne Haines</i> Pharmacodynamics | 308 |
| | Pharmacological Treatment of Depression | 310 |
| | Pharmacological Treatment for Anxiety | 314 |
| | Pharmacological Treatment of Bipolar Disorder | 317 |
| | Pharmacological Treatment of Psychotic Symptoms | 320 |
| | Resources for Professionals | 324 |
| | Conclusion | 326 |
| Part V: Societal Attitudes Toward Disability | | |
| Chapter 12 | Societal Attitudes Toward Disability: Concepts, Measurements, and Interventions | 333 |
| | <i>Fong Chan, Hanoch Livneh, Steven R. Pruetz, Chia-Chiang Wang, and Lisa Xi Zheng</i> Attitudes Toward Disability | 335 |
| | Measurement Issues | 344 |
| | Attitude Change Strategies | 352 |
| | Concluding Remarks | 360 |

Part VI: Special Issues

| | | |
|-------------------|---|-----|
| Chapter 13 | Psychiatric Rehabilitation | 371 |
| | <i>Molly K. Tschopp and Michael Frain</i> | |
| | Psychiatric Rehabilitation | 375 |
| | Psychiatric Rehabilitation Goals and Strategies | 381 |
| | Evidence-Based Psychiatric Rehabilitation Practices | 385 |
| | Conclusion | 391 |
| Chapter 14 | Substance Abuse: Models, Assessment, and Interventions | 399 |
| | <i>Elizabeth da Silva Cardoso, Arnold W. Wolf, and Steve L. West</i> | |
| | Prevalence | 400 |
| | Terms and Definitions | 408 |
| | Conceptual Model of Abuse and Addiction | 411 |
| | Assessment | 414 |
| | Treatment | 421 |
| | Current Trends | 432 |
| | Closing Statement | 434 |
| Chapter 15 | Sexuality and Disability | 443 |
| | <i>Maria Helena Juergens and Susan Miller Smedema</i> | |
| | Sexuality and Disability | 447 |
| | Some Common Disabilities and Illnesses that Affect Sexualities | 455 |
| | Application to Rehabilitation | 463 |
| | Conclusion | 470 |
| Chapter 16 | Multiculturalism and Adjustment to Disability | 479 |
| | <i>Julie Chronister and Erica Johnson</i> | |
| | Disability and Culture | 483 |
| | Multicultural Concepts and Models | 486 |
| | Adjustment to Disability Within a Multiculturalism Framework | 494 |
| | Evidence | 503 |
| | Conclusion | 508 |

Part VII: Outcome Measurements

| | | |
|-----------------|---|-----|
| Chapter 17 | Quality of Life and Psychosocial Adaptation to Chronic Illness and Disability | 521 |
| | <i>Malachy Bishop, Susan Miller Smedema, and Eun-Jeong Lee</i> | |
| | Psychosocial Adaptation and Quality of Life | 522 |
| | Historical Development and Evolution of the Concept of Quality of Life | 526 |
| | Distinguishing Quality of Life from Related Constructs | 528 |
| | Quality of Life Models of Psychosocial Adaptation | 531 |
| | Issues in the Measurement of Quality of Life | 539 |
| | Instruments for Assessing Quality of Life in Psychosocial Adaptation | 543 |
| | Conclusion and Future Research Directions | 549 |
| Index | | 559 |

Contributors

Shana K. Bakken-Gillen, PhD
Manager
Psychosocial Recovery Division
William S. Middleton Memorial
Veterans Hospital
Madison, WI

Malachy Bishop, PhD
Associate Professor and Coordinator
Rehabilitation Counseling Program
Department of Special Education
and Rehabilitation Counseling
University of Kentucky

Denise Catalano, PhD
Assistant Professor
Rehabilitation Counseling Program
Department of Rehabilitation,
Social Work, and Addictions
University of North Texas

Jacob Yui-Chung Chan
Assistant Professor
Rehabilitation Counseling Program
Department of Counseling
Psychology and Guidance Services
Ball State University

Chung-Yi Chiu, PhD(C)
Doctoral Candidate
Rehabilitation Psychology Program
Department of Rehabilitation
Psychology and Special Education
University of Wisconsin–Madison

Chih Chin Chou, PhD
Assistant Professor
Rehabilitation Counseling Program
Department of Special Education,
Rehabilitation, and School Psychology
University of Arizona

Jacquelyn Dalton, PhD
Assistant Professor
Rehabilitation Counseling Program
Department of Educational
Foundations and Counseling Programs
Hunter College
City University of New York

Nicole Ditchman, PhD(C)
Doctoral Candidate
Rehabilitation Psychology Program
Department of Rehabilitation
Psychology and Special Education
University of Wisconsin–Madison

Michael Frain, PhD
Assistant Professor
Rehabilitation Counseling Program
Department of Counselor Education
Florida Atlantic University

Suzanne Haines, RN, BSN
Clinical Advisor at Humana,
Green Bay and Adjunct Nursing
Clinical Instructor for Northeast
Wisconsin Technical College
Green Bay

Celeste Hunter, PhD (C)
Doctoral Candidate
Rehabilitation Psychology Program
Department of Rehabilitation
Psychology and Special Education
University of Wisconsin–Madison

Erica K. Johnson, PhD
Lecturer
Graduate Program in Rehabilitation
Counseling
Western Washington University
Researcher
Health Promotion Research Center
University of Washington–Seattle

Maria Helena Juergens, PhD
Assistant Professor
Department of Psychology
Edgewood College
Madison, Wisconsin
Assistant Professor
Psychology
Madison Area Technical College

Alyce Keith, RNC
Clinical Director
Community Care–Marion, Iowa
Clinical Preceptor, Mental Health
University of Iowa
College of Nursing

Jeong-Han Kim, PhD
Assistant Professor
Rehabilitation Counseling Program
Department of Counseling
Psychology and Guidance Services
Ball State University

John Kosciulek, PhD
Associate Professor
Rehabilitation Counseling Program
Department of Counseling, Education
Psychology and Special Education
Michigan State University

Eun-Jeong Lee, PhD
Assistant Professor
Rehabilitation Psychology Program
Institute of Psychology
Illinois Institute of Technology

Gloria K. Lee, PhD
Associate Professor
Rehabilitation Counseling Program
Department of Counseling,
School and Educational Psychology
University at Buffalo,
State University of New York

Susan Gallagher-Lepak, RN, PhD
Assistant Professor
Professional Program in Nursing
University of Wisconsin–Green Bay

Chen-Ping Lin, PhD(C)
Doctoral Candidate
Rehabilitation Psychology Program
Department of Rehabilitation
Psychology and Special Education
University of Wisconsin–Madison

Hanoch Livneh, PhD
Professor
Rehabilitation Counseling Program
Department of Special and
Counselor Education
Portland State University

Ruth Torkelson Lynch, PhD
Professor
Rehabilitation Psychology Program
Department of Rehabilitation
Psychology and Special Education
University of Wisconsin–Madison

Steven R. Pruettt, PhD
Postdoctoral Researcher
Department of Physical Medicine
and Rehabilitation
Ohio State University

Janet Reilly, DNP, APNP-BC, RN
Assistant Professor
Professional Program in Nursing
Family Practice Nurse
Practitioner/Prescriber
University of Wisconsin–Green Bay

Maria Romero, PhD(C)
Doctoral Candidate
Rehabilitation Psychology Program
Department of Rehabilitation
Psychology and Special Education
University of Wisconsin–Madison

David Rosenthal, PhD
Associate Professor and Chair
Department of Rehabilitation
Psychology and Special Education
University of Wisconsin–Madison

Joy Sasson Gelman, PhD
Postdoctoral Fellow in Psychology
Integrated Health Psychology
Training Program
The Wright Institute, Berkeley, CA

Susan Miller Smedema, PhD
Assistant Professor
Rehabilitation Counseling Program
Department of Childhood Education,
Reading and Disability Services
Florida State University

Molly K. Tschopp, PhD
Associate Professor
Program Director, Rehabilitation
Counseling Program
Department of Counseling and
School Psychology
University of Massachusetts, Boston

Chia-Chiang Wang, MS
Doctoral Student
Department of Rehabilitation
Psychology and Special Education
University of Wisconsin–Madison

Steven L. West, PhD
Associate Professor
Rehabilitation Counseling Program
Department of Rehabilitation
Counseling
Virginia Commonwealth University

Lisa M. Wilson, PhD
Associate Professor and Coordinator
Rehabilitation Counseling Program
Pontifical Catholic University
Puerto Rico

Arnold Wolf, PhD
Professor and Coordinator
Rehabilitation Counseling Program
Department of Educational
Foundations and Counseling
Programs
Hunter College
City University of New York

Lisa Xi Zheng, PhD(C)
Doctoral Candidate
Rehabilitation Psychology Program
Department of Rehabilitation
Psychology and Special Education
University of Wisconsin–Madison

Preface

Rehabilitation researchers and scholars have long recognized the need to understand the role of psychosocial factors in the development of efficacious and effective clinical rehabilitation practices. Therefore, the goal of this book is to provide readers with a treatment of dominant theories, models and techniques related to the psychosocial adjustment process of persons with chronic illness and disability. In doing this, we sought to provide in depth coverage of current theories and models of disability and adjustment, major psychosocial variables assessed in the adjustment to disability process, and intervention strategies appropriate for use in the adjustment process. In addition, this book includes chapters that address important issues related to the adjustment process (e.g., stigma, societal attitudes, and sexuality) as well as chapters that address adjustment within the context of persons with co-occurring psychiatric disabilities and alcohol and other drug abuse issues. Finally, many of the chapters include information on appropriate assessment tools and interventions that can be used in clinical practice to address and evaluate adjustment to disability related issues.

All chapters in this book are written from an evidence-based practice (EBP) perspective, emphasizing the empirical basis of the models and interventions explained, and their effectiveness with rehabilitation-related populations. Indeed, in today's era of accountability and research utilization, the EBP movement in medicine has permeated and affected a wide array of health and allied health care disciplines, and the field of rehabilitation is no exception. Further, it is our strong belief that rehabilitation and allied health professionals should have an interest in delivering the most effective services to people with chronic illness and disability, based whenever possible on the research evidence. The utilization of EBP also promotes ethical practice among

rehabilitation health professionals by facilitating treatment standards and care protocols that protect clients from harm (nonmaleficence), improve the efficient use of scarce resources (justice), and provide people with disabilities and chronic illness the opportunity to exercise knowledgeable self-determination and informed choice (autonomy).

We believe this book fills a significant gap that exists within the academic and practice realm of psychosocial aspects of disability and chronic illness. At present, there is no textbook that provides comprehensive coverage of the major psychosocial theories, models and interventions from an *evidenced-based practice perspective*; it is this gap in particular that this book attempts to fulfill. Finally, this book is intended to reach a broad scope of disciplines. Although the chapters are written from a rehabilitation perspective, the book is intended to be useful not only for rehabilitation practitioners and students (upper level undergraduate and graduate students in rehabilitation counseling and psychology), but also for professionals from allied health-related disciplines such as nursing, occupational therapy, physical therapy, speech and language therapy, recreation, and social work.

We are pleased to be part of this particular project for several reasons. First, this book gave us an opportunity to work with rehabilitation health professionals and researchers from around the United States who have diverse expertise in the area of psychosocial adjustment. We are proud that many of the contributing authors of this book are graduates of the University of Wisconsin–Madison, while others have been professional associates of ours for years through scholarly projects and professional associations. Finally, we are extremely pleased to have contributions from those of whom we have had limited opportunity to work with in the past but have substantial background and work in the area of adjustment to disability.

Another reason for undertaking this project stems from our love for and commitment to psychosocial research. For us, helping people cope with psychosocial adjustment to chronic illness or disability is at the core of the rehabilitation process, and has therefore been a major focus of our research careers. In this book, we hope to bring together the broad scope of psychosocial adjustment literature in a manner that integrates theory, research, and practice with the ultimate goal of improving the quality and effectiveness of rehabilitation

health practices and the lives of people with chronic illness and disability. We sincerely hope that this book will not only excite and inform readers about the value of evidence-based rehabilitation practice related to psychosocial adjustment and disability, but ultimately benefit the clients with whom our readers will serve.

Fong Chan
Madison, Wisconsin

Elizabeth da Silva Cardoso
New York City, New York

Julie A. Chronister
San Francisco, California

Introduction



An Introduction to Evidence- Based Practice Approach to Psychosocial Interventions for People with Chronic Illness and Disability

Fong Chan

Julie Chronister

Elizabeth da Silva Cardoso

1

In today's managed care era, the evidence-based practice (EBP) movement in medicine has affected a wide array of health and allied health care disciplines including rehabilitation health professions (Chronister, Chan, Cardoso, Lynch, & Rosenthal, 2008). The philosophical underpinnings of EBP espouse that all health care professionals should provide their clients with the most effective clinical services based on sound research evidence (Chan, Tarvydas, Blalock, Strauser, & Atkins, 2009; Chronister et al., 2008). With regard to rehabilitation, the EBP movement underscores the importance of incorporating research-based knowledge into clinical rehabilitation practice to ensure that people with chronic illness and disability receive the most effective services. In addition, EBP pro-

notes ethical rehabilitation practice by better protecting clients from harmful services (nonmaleficence), improving the efficiency of how scarce rehabilitation resources are used (justice), and allowing people with disabilities and chronic illness the opportunity to exercise self-determination and informed choice (autonomy) based on the provision of knowledge regarding rehabilitation services and care (Chan et al., 2009).

While the EBP movement is a relatively recent health care phenomenon, aspects of this approach to service delivery have been part of the rehabilitation philosophy for years. For example, our field's commitment to empowerment and consumerism has resulted in an emphasis on client involvement, program evaluation, and the use of empirical research in practice (Corthell & VanBoskirk, 1988; Emener, 1991; Houser, Hampton & Carriker, 2000; McAlees & Menz, 1992; Rubin & Roessler, 1995). Nonetheless, our field's commitment to using research in practice has yet to be realized, and according to Law (2002), the field's current state of clinical practice may be more accurately characterized as experience-based, eminence-based, or habit-based. To enact an evidence-based approach in rehabilitation, Dunn and Elliott (2008) proposed that we need to first embrace a comprehensive theory-driven research agenda; second, validate effective interventions based on this research agenda; and finally, facilitate the provision of empirically supported interventions based on the evidence. In addition, we need to advance our training curriculum to include coursework that extends beyond the traditional research methods knowledge areas that specifically addresses the training and application of EBP techniques.

Without a doubt, rehabilitation health professionals will be increasingly asked to integrate research evidence in their clinical decision-making process (Chan, Miller, Pruett, Lee, & Chou, 2003; Chwalisz, 2003; Schlosser, 2006). In light of the present and rapidly growing EBP movement in health care and its implication for rehabilitation health professionals, the purpose of this chapter is to provide readers with an overview of EBP and related concepts, discuss the need for a comprehensive theory- or model-driven research agenda, and describe how this model-driven culturally sensitive evidence-based practice forms

the foundation for organizing the contents and presentation of psychosocial theories, research, and techniques in this textbook.

Evidence-Based Practice

The evidence-based practice approach delineates both a conceptual framework and a set of skills for clinical decision making (Walker, Seay, Solomon, & Spring, 2006). From a conceptual perspective, there is a clear consensus that EBP involves the “conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients” (Sackett, Rosenberg, Gray, Haynes, & Richardson, 1996, p. 71). The complexities occur when scholars discuss what constitutes *best evidence*. Questions regarding what constitutes quality research, how to best apply research evidence, and how to define effectiveness abound in the literature (Tanenbaum, 2005). For example, within the field of medicine, with its positivist scientific methods tradition, the so-called gold standard for scientific evidence is randomized clinical trials (RCTs), and best evidence from this perspective is therefore derived from a series of research study results based on RCTs that form an empirical consensus regarding the effectiveness of a specific treatment approach (Ottensbacher & Maas, 1999). Conversely, RCTs may not be the best form of evidence for rehabilitation and other allied disciplines because this type of experimental design may not take into account the complexities of the real world clinical populations and settings associated with behavioral sciences (Chambless & Ollendick, 2001; Wampold, 1997, 2001, 2003). For these reasons, Tucker and Reed (2008) suggested that we should embrace evidentiary pluralism as a strategy for research and EBP in rehabilitation. Despite the debate regarding what constitutes best evidence, a five-level hierarchical framework was developed that offers health care professionals a format for determining the strength of the evidence based on the gradient of methodological rigor (Holm, 2000; Nathan & Gorman, 1998). This hierarchy of evidence is presented in Table 1.1.

Evidence gathered from Level 1 and Level 2 is considered empirically validated treatment in professional psychology practice and reflects psychology’s long tradition of

1.1 Hierarchical Levels of Evidence

Level 1: Strong evidence from at least one systematic review of multiple well-designed randomized controlled trials.

Level 2: Strong evidence from at least one properly designed randomized controlled trials of appropriate size.

Level 3: Evidence from well-designed trials without randomization, single group pre-post, cohort, time series, or matched case-controlled studies.

Level 4: Evidence from well-designed nonexperimental studies from more than one center or research group.

Level 5: Evidence from opinions of respected authorities, based on clinical evidence, descriptive studies, or reports of expert committees.

using controlled experimental design to identify effective treatments. Chambless and Hollon (1998) defined empirically validated interventions as psychological treatments that are clearly shown to be efficacious in controlled research studies with a delineated population. They further suggested that best evidence for psychological and psychosocial treatments should be evaluated in terms of efficacy (statistical and clinical significance), effectiveness (clinical utility), and efficiency (cost-effectiveness).

From a skills perspective, an evidence-based practitioner in rehabilitation must be knowledgeable about specific methods for locating research evidence and incorporating this clinical information into treatment. DePalma (2002) described EBP to include a process that begins with knowing what clinical questions to ask, how to find the best practice, and how to critically appraise the evidence for validity and applicability to the particular care situation. Following this, the evidence must be considered within the context of the client's unique values and needs. The final skill required in this process is evaluating the effectiveness of care and the continual improvement of the process. Walker et al. (2006) suggested following four specific steps: (a) formulating well-defined, answerable questions; (b) seeking the best evidence available to answer the questions; (c) critically appraising the evidence; and (d) applying the evidence to the individual patient. Following is a detailed description of each step.

Step 1: Formulating Well-Defined, Answerable Questions

This is likely the most important step of the EBP process because it determines what evidence to look for and where to search for the best evidence. Examples of general questions the rehabilitation health professional may ask at this step include:

- What processes/techniques make a specific rehabilitation intervention work?
- For whom is the intervention most effective?
- Are certain interventions/programs better for certain persons?
- Who should receive a specific intervention or program? When? And for how long?

General questions are also known as background questions. In EBP, background questions ask about a general setting or context, whereas foreground questions ask about a specific case within that context (Walker et al., 2006). The following is a case illustration: A 52-year-old man who is a Chinese immigrant sustained a work injury and is unhappy with his physical therapy treatment. As his physical therapist, you are treating his low back pain with transcutaneous electrical nerve stimulation (TENS). During treatment, he expresses an interest in trying acupuncture as an alternative therapy and asks you to help him identify the best treatment approach for his low back pain. In this case, background questions may include the following examples:

- What are the most effective treatments for low back pain?
- Is acupuncture an effective treatment for low back pain?
- Are there any significant risks associated with acupuncture?

With regards to foreground questions, Walker et al. (2006) recommend asking these questions using the following PICO format: Patient group (P), intervention (I), comparison group (C), and outcome measures (O). The

following is an example of a foreground PICO question for the above illustrative case: In middle-aged Chinese men with chronic pain (P), is there any evidence that acupuncture (I) is superior to sham treatment, biofeedback, relaxation training, and TENS (C) in reducing the frequency, intensity, and/or duration of low back pain (O)? A set of well-built background and foreground questions provide direction for determining what evidence to look for and where to search for the best evidence.

Step 2: Seeking the Best Evidence Available to Answer the Questions

While Google searches are readily accessible and therefore tempting, this search engine may provide outdated, unreliable, and inaccurate information. The most reliable and scholarly approach to searching for *best evidence* is through academic databases and/or scholarly Web sites. Appropriate academic databases to use include Academic Search Elite (a multi-disciplinary database that covers virtually every area of academic study), CINAHL Plus with Full Text (the world's most comprehensive source of full text for nursing & allied health journals), MEDLINE (the most authoritative medical information database), and PsycINFO (the most comprehensive database for psychological research). The most useful Web sites for evidence-based medical rehabilitation information include the Cochrane Collaboration (<http://www.cochrane.org>), Agency for Healthcare Research and Quality (<http://www.ahrq.gov>), and American Congress of Rehabilitation Medicine (http://www.acrm.org/consumer_professional/Evidence_Based_Practice.cfm).

Given the potential for a vast number of research articles with contradictory findings, the most efficient way to find best evidence is to use the databases and/or specific Web sites suggested above for systematic reviews (prefiltered evidence). Systematic reviews answer a specific clinical question by using predetermined rules for capturing the evidence, appraising it, and synthesizing it in a manner that is easily accessible to clinicians. Systematic reviews are based on work by scholars with expertise in a substantive area who review and critique the available data in the field (Schlosser, 2006). Strong evidence from at least one system-

atic review of multiple well-designed RCTs is considered the highest level of best evidence and is frequently labeled a *meta-analytic* review.

The most efficient way of searching for psychosocial and rehabilitation treatment information is to search the above databases and/or Web sites using keywords related to the clinical problem coupled with the terms “systematic review” or “meta-analysis.” To illustrate the efficiency of this, consider the following with regards to our case scenario: Entering the terms systematic review, meta-analysis, acupuncture, and chronic pain in Google resulted in 59,000 items; conversely, entering acupuncture, low back pain, and systematic review using Academic Search Elite, CINAHL Plus with Full Text, MEDLINE, and PsycINFO resulted in 12 entries. When just acupuncture was entered, 13,309 entries resulted; when just low back pain was entered, 14,606 entries resulted; and when acupuncture and low back pain were entered together, 264 entries resulted. Thus, entering just one term and entering all terms into these databases result in a much more manageable number of entries than using Google. For this search, the title of the two most current reviews are, “Complementary and Alternative Medicine in the Treatment of Low Back Pain: A Systematic Review” (published in 2006) and “Acupuncture and Dry-Needling for Low Back Pain: An Updated Systematic Review within the Framework of the Cochrane Collaboration” (published in 2005). A review of the two articles indicated that the Cochrane review (Furlan et al., 2005) is more relevant for our illustrative case than the first article. A summary of the Cochrane review is presented below:

“For chronic low back pain, there is evidence of immediate and short-term pain relief and functional improvement for acupuncture compared to no treatment or sham therapy. There is also evidence that acupuncture, added to other conventional therapies, relieves pain and improves function better than the conventional therapies alone. However, the effects are only small. Dry-needling appears to be a useful adjunct to other therapies for chronic low back pain. There is insufficient evidence to support the effectiveness of acupuncture for acute low back pain.”

In another search seeking to determine the effectiveness of TENS versus acupuncture, the terms acupuncture and TENS were entered and six entries occurred. The lead systematic review article indicated that the evidence for the efficacy of TENS as an isolated intervention in the management of chronic low back pain is limited and inconsistent. The authors stated that increased attention should be given to the risks and benefits of the long-term use of TENS and addressed the realities of managing chronic low back pain. As such, there is evidence suggesting that our illustrative client might be dissatisfied with his TENS treatment. Moreover, acupuncture treatment may be more effective within the context of his dominant culture as an immigrant from China.

Step 3: Critically Appraising the Evidence

Rehabilitation professionals can save valuable time by learning how to glean evidence from systematic reviews as critically appraising evidence from a single properly designed RCT article (i.e., Level 2 evidence) requires a relatively strong background in research methods and a working knowledge of concepts related to internal and external validity (Schlosser, 2006). To be able to read and understand systematic reviews, rehabilitation professionals need to be familiar with several concepts related to meta-analysis as described below:

1. *Randomized clinical trials*. RCTs possess three characteristics: (a) an experimental group who receives the experimental intervention or treatment; (b) a control or comparison group who receives standard care or a comparison intervention that is different from the experimental treatment; and (c) random assignment or randomization to experimental and control or comparison groups.
2. *Meta-analysis*. Meta-analysis is a subtype of systematic review. A meta-analysis reviews the results of a collection of empirical studies in a specific research domain through statistical integration and analysis, and synthesizes the results to determine the effectiveness of a given clinical treatment (Durlak, 1995; Hunt, 1997). It is a mechanism by which professionals can understand the effectiveness of a practice/intervention domain in quantitative terms.

1.2 Effect Size Measures

| Effect Size | PV | r | d | η^2 | w | f^2 |
|----------------|------|-----|-----|----------|-----|-------|
| Small effects | .01 | .10 | .20 | .01 | .10 | .02 |
| Medium effects | .10 | .30 | .50 | .06 | .30 | .15 |
| Large effects | .25 | .50 | .80 | .14 | .50 | .35 |

3. *Effect size.* Central to meta-analysis is the concept of effect size. Similar to an individual experiment, a meta-analysis contains both independent and dependent variables, with the independent variables being such characteristics as participants, interventions, and outcome measures, and the dependent variable being the effect size (e.g., the d index), or the outcome of the results of each study selected for review, transformed into a common metric across studies. In meta-analysis, the effect size of the individual RCT will be reported as d and the aggregated effect size of a collection of RCTs will be reported as $d+$. For correlational studies, the effect size will be reported as r and for a Pearson chi-square test, the effect size is reported as w . A typical way to interpret the size is to use the standards established by Cohen (1988) and presented here in Table 1.2.

To interpret the effect size in standardized mean difference research, the effect size d is identical to a z score. For example, if the aggregate effect size for 40 acupuncture RCT articles (e.g., acupuncture treatment vs. placebo) is equal to d of 1.0 (i.e., $z = 1.0$), this means that clients with low back pain who received acupuncture treatment are better off than 84% (+1 z score covers 84% of the normal curve) of the clients who received placebo or sham treatments and therefore the difference between the treatment and control groups is large.

Step 4: Applying the Evidence to the Individual Consumer

After locating, appraising, and synthesizing the research evidence, the rehabilitation health professional must incorporate the evidence into a client's treatment plan by

taking into account the significance of the evidence, his or her own professional expertise and judgment, and the client's characteristics, values, and context. The American Psychological Association (APA) defines best evidence as "evidence based on systematic reviews, reasonable effect sizes, statistical and clinical significance, and a body of supporting evidence" (2005, p. 1). Professional judgment is used to identify each client's unique disability and health status and to integrate the best evidence with the rehabilitation context. Client characteristics, values, and context are the preferences, values, strengths, weaknesses, personality, sociocultural factors, and expectations that a consumer brings to the rehabilitation process. In EBP, clinical decisions are made in collaboration with the client. For example, in our illustrative case there are cultural factors to consider such as the client being an older adult who migrated to the United States from China. More specifically, not only does the evidence support acupuncture over TENS, but the client may be more comfortable with acupuncture given his cultural background.

Model-Driven Culturally Sensitive Evidence-Based Rehabilitation Practice. Dunn and Elliott (2008) argue for the primacy of theory- or model-driven rehabilitation research. Specifically, they advocate for the development of theory-driven research programs that embrace a methodological pluralism that advances theory and produces meaningful research programs that inform rehabilitation practice. Of particular importance to rehabilitation and allied health fields is the need to consider conceptual models that consider contextual and environmental factors in the development of efficacious and effective rehabilitation practice (cf. Wright, 1960, 1983). Helping people with chronic illness and disability cope with psychosocial and vocational adjustment issues has been central to the clinical practice of many rehabilitation health professions including rehabilitation counseling, rehabilitation psychology, nursing, physical therapy, and occupational therapy. For example, according to the APA's Division of Rehabilitation Psychology (APA, 2008), rehabilitation psychologists assess and provide interventions for a range of physical, personal, psychosocial, cognitive, and behavioral factors that may be affected by chronic illness and disability. These factors

include neurocognitive status, sensory difficulties, mood and emotions, desired level of independence and interdependence, mobility and freedom of movement, self-esteem and self-determination, behavioral control and coping skills, subjective view of capabilities, and quality of life. With regard to rehabilitation counseling, Maki and Riggar (2003) defined the rehabilitation counseling discipline as an integrated program of interventions that empowers individuals with disabilities and chronic illness to achieve “personally fulfilling, socially meaningful, and functionally effective interaction” (p. 1) in everyday life.

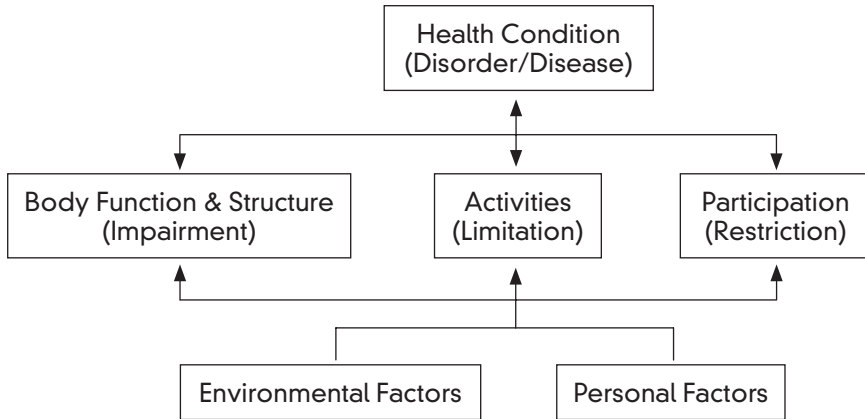
In light of our field’s role and emphasis on psychosocial issues and their impact on rehabilitation outcomes, an emerging research trend is to employ a biopsychosocial model as a conceptual framework for empirically testing rehabilitation interventions and providing empirical support for clinical practices (Dunn & Elliott, 2008; Gebbie, Rosenstock, & Hernandez, 2003; Metcalfe & Moffett, 2005). This approach is consistent with the 2003 Institute of Medicine report that emphasizes the importance of understanding and utilizing an ecological approach to conducting public health research based on individual level and group level measures that include molecular/genetic, cellular, organ systems, behavioral/psychological, social/environmental, and cultural/political levels of analysis (Gebbie et al., 2003). In addition, the National Institute on Disability and Rehabilitation Research (NIDRR)’s conceptual framework of disability embraces the use of a socioecological approach to study psychosocial and vocational adjustment of people with disabilities (Tate & Pledger, 2003).

The World Health Organization ICF Model of Disability

Recently, the World Health Organization International Classification of Functioning, Disability, and Health (ICF) model gained worldwide acceptance among rehabilitation health researchers and practitioners as a biopsychosocial framework that can be used to support a systematic approach for understanding chronic illness and disability across diverse populations and cultures (Peterson & Rosenthal, 2005). Specifically, the ICF paradigm is structured around the following broad components: (a) body

1.1

The World Health Organization ICF Model



functions and structure, (b) activities (related to tasks and actions by an individual) and participation (involvement in a life situation), and (c) environmental and personal characteristic factors. Key constructs and how they interact to affect full inclusion, health status, and quality of life of people with chronic illness and disability, are depicted in Figure 1.1.

Within the ICF framework, functioning and disability are viewed as a complex interaction between the health condition of the individual, the contextual factors of the environment, as well as personal factors. In working with clients with psychosocial adjustment issues related to the onset of a chronic illness or disability, it is useful to consider the importance of environmental (E) factors and personal characteristic (P) factors and the significant the $P \times E$ interaction effect on the psychosocial and community adjustment of people with chronic illness and disability in the community. The ICF model enables rehabilitation health professionals to conceptualize a client's presenting problem and treatment solution from a holistic perspective and enhances clinical decision-making based on the voluminous research generated by ICF researchers from different health care and rehabilitation disciplines.

Mediators and Moderators in Psychosocial Research

The ICF model can also be useful for studying mediators and moderators in psychosocial theory, research, and practice (Chan et al., 2008). The composition of the U.S. population is expanding and becoming more diverse, with the European American population projected to fall from 81% of the population in 2000 to 52% of the population in 2050 and the population of people from Hispanic or Latino origin projected to steadily increase from 12.6% in 2000 to 24.4% of the total population by 2050. In addition, Asian Americans will also experience a dramatic growth in population size from 3.8% in 2000 to 8% of the population in 2050; the African American population will rise from 12.7% of the population in 2000 to 14.6% of the population in 2050; and the American Indian, Eskimo, and Aleut will represent 1% of the population. Indeed, the changing demographic makeup of the United States has prompted many health care researchers to question the traditional assumption that treatments that work for European Americans will work for individuals from racial and ethnic minority groups. For the rehabilitation community, awareness of personal characteristics related to being different from the majority population, how one sees oneself, and how others see and react to an individual with a disability or chronic illness have long been recognized as central to the experience of having a disability or chronic illness. Therefore, research that considers an individual's culture as well as other mediators and moderators of psychosocial functioning is fundamental to explaining the full spectrum of human experience.

Research questions involving moderators address *when* or *for whom* a variable most strongly predicts or causes an outcome variable, whereas mediators establish *how* or *why* one variable predicts or causes an outcome variable (Frazier, Tix, & Barron, 2004; Hoyt, Imel, & Chan, 2008). More specifically, a mediator provides information about the underlying mechanisms for change, whereas a moderator effect is basically an interaction whereby the effect of an independent variable (e.g., types of therapy) changes at different levels of another independent variable (e.g., race). Similar to health care research, the study of moderator effects in rehabilitation research is particularly important for determining the effects

of race, gender, disability type, resiliency (e.g., social support), and vulnerability factors (e.g., stress) on adjustment to disability. For example, what works for European Americans with disabilities may not work for clients from racial and ethnic minority backgrounds; what works for men may not work for women; and what works for European men with disabilities may not work for African women with disabilities. Similarly, moderators are extremely important in studying the role of resiliency factors such as social support or determining differences in relation to sudden onset versus chronic conditions. For theory or model building, it is equally important to study the mediator effect (i.e., the underlying mechanisms of change) so that we can better design interventions that work (Chan et al., 2009; Hoyt et al., 2008). Without question, a renewed appreciation of model-driven research and an increased awareness of the effect of mediator and moderator variables on rehabilitation outcomes will help rehabilitation professionals provide better and more effective psychosocial interventions based on scientific advances.

Concluding Remarks

It is clear from this overview that not only have we made significant progress in our understanding of the role of psychosocial factors in the adaptation process related to chronic illness and disability, but we are embarking on new and exciting directions in the study of psychosocial aspects of disabilities. This book provides an overview of EBP, reviews the prominent theoretical approaches to psychosocial adjustment to chronic illness and disability, and includes some empirically supported interventions that can be applied in rehabilitation settings. In addition, the book covers other important issues related to psychosocial adjustment such as stigma, societal attitudes, diversity, and sexuality, and offer chapters that explore psychosocial adjustment within the context of co-occurring psychiatric disabilities and substance abuse issues. The primary goal of this book is to provide readers with the best research evidence available related to the topics we consider important to the psychosocial adjustment of people with chronic illness and disability. In addition, we sought to garner the best evidence from literature bodies that are often wrought with inconsistencies and contradictory findings.

In conclusion, we hope that the content of this book will be helpful to practitioners and students of rehabilitation and allied health professions in gaining a better understanding of the complexities of psychosocial adjustment, the corresponding evidence and best practices related to psychosocial adjustment, and practical applications of psychosocial theories and techniques in rehabilitation settings.

References

- American Psychological Association. (2005). *Policy statement on evidence-based practice in psychology*. American Psychological Association Web site. Retrieved February 15, 2006, from: <http://www.apa.org/practice/ebpstatement.pdf>
- American Psychological Association (2008). Rehabilitation psychology. American Psychological Association Division 22 Website. Retrieved March 15, 2008, from: http://www.div22.org/about_rehab.php
- Chambless, D. L. & Hollon, S. D. (1998). Defining empirically supported therapies. *Journal of Consulting & Clinical Psychology, 66*, 7–18.
- Chambless, D. L., & Ollendick, T. H. (2001). Empirically supported psychological interventions: Controversies and evidence. *Annual Review of Psychology, 52*, 685–716.
- Chan, F., Miller, S., Pruetz, S., Lee, G., & Chou, C. (2003). Research. In D. Maki & T. Riggat (Eds.), *Handbook of Rehabilitation Counseling* (pp. 159–170). New York: Springer.
- Chan, F., Tarvydas, V., Blalock, K., Strauser, D., & Atkins, B. (2009). Unifying and elevating rehabilitation counseling through model-driven, culturally-sensitive evidence-based practice. *Rehabilitation Counseling Bulletin, 52*, 114–119.
- Chronister, J.A., Chan, F., Cardoso, E., Lynch, R. & Rosenthal, D.A. (2008). Evidence-based practice movement in health care: Implications for rehabilitation. *Journal of Rehabilitation, 74*(2), 6–15.
- Chwalisz, K. (2003). Evidence-based practice: A framework for the twenty-first century scientist-practitioner training. *The Counseling Psychologist, 31*, 497–528.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Corthell, D. & VanBoskirk, C. V. (1988). Client involvement: Partnership in the vocational rehabilitation process. Menomonie, WI: Stout Vocational Rehabilitation Institute, Research and Training Center.
- DePalma, J. A. (2002). Proposing an evidence-based policy process. *Nursing Administration Quarterly, 26*(4), 55–61.
- Dunn, D. S., & Elliott, T. R. (2008). The place and promise of theory in rehabilitation psychology. *Rehabilitation Psychology, 53*, 254–267.
- Durlak, J. A. (1995). Understanding meta-analysis. In L. G. Grimm & P. R. Yarnold (Eds.), *Reading and understanding multivariate statistics* (pp. 319–352). Washington, DC: American Psychological Association.
- Emener, W. G. (1991). Implementing the empowerment concept in rehabilitation: Contributions of social role theory. In W. G. Emerner & M.

- A. Darrow (Eds.), *Career explorations in human services* (pp. 295–306). Springfield, IL: Charles C. Thomas.
- Frazier, P., Tix, A., & Barron, K. (2004). Testing moderator and mediator effects in counseling psychology research. *Journal of Counseling Psychology, 51*, 115–134.
- Furlan, A. D., van Tulder, M., Cherkin, D., Tsukayama, H., Lao, L., Koes, B., & Bernan, B. (2005). Acupuncture and dry-needling for low back pain: An updated systematic review within the framework of the Cochrane Collaboration. *Spine, 30*, 844–963.
- Gebbie, K.M., Rosenstock, L., & Hernandez, L.M. (2003). *Who will keep the public healthy? Educating public health professionals for the 21st century*. Washington, DC: Institute of Medicine, National Academies Press.
- Holm, M. B. (2000). Our mandate for the new millennium: Evidence-based practice. *American Journal of Occupational Therapy, 54*, 575–585.
- Houser, R., Hampton, N. Z., & Carriker, C. (2000). Implementing the empowerment concept in rehabilitation: Contributions of social role theory. *Journal of Applied Rehabilitation Counseling, 31*(2), 18–23.
- Hoyt, W., Imel, S. E., & Chan, F. (2008). Regression and correlation techniques: Recent controversies and best practices. *Rehabilitation Psychology, 53*, 321–339.
- Hunt, M. (1997). *How science takes stock: The story of meta-analysis*. New York: Russell Sage Foundation.
- Law, M. (2002). *Evidence-based rehabilitation: A guide to practice*. Thorofare, NJ: SLACK corp.
- Maki, D., & Riggard, T. (2003). *Handbook of Rehabilitation Counseling*. New York: Springer.
- McAlees, D. & Menz, F. (1992). Consumerism and vocational evaluation. *Rehabilitation Education, 6*, 213–220.
- Metcalfe, C.J., Moffett, J.A. (2005). Do patients' expectations of physiotherapy affect treatment outcome? Part 1: Baseline data. *International Journal of Therapeutic Rehabilitation, 12*, 55–62.
- Nathan, P. E., & Gorman, J. M. (1998). *A guide to treatments that work*. New York: Oxford University Press.
- Ottensbacher, K. J., & Maas, F. (1999). How to detect effects: Statistical power and evidence-based practice in occupational therapy research. *American Journal of Occupational Therapy, 40*, 181–188.
- Peterson, D., & Rosenthal, D. (2005). The International Classification of Functioning, Disability, and Health: A primer for rehabilitation educators. *Rehabilitation Education, 19*, 81–94.
- Rubin, S. E. & Roessler, R. (1995). *Foundations of the vocational rehabilitation process* (4th ed.). Austin, TX: Pro-Ed.
- Sackett, D.L., Rosenberg, W. M., Gray, J.A., Haynes, R. B., & Richardson, W. S. (1996). Evidence-based medicine: What it is and what it isn't. *British Medical Journal, 312*(7023), 71–72.
- Schlosser, R.W. (2006). The role of systematic reviews in evidence-based practice, research, and development, *Focus, 15*, 1–4.
- Tanenbaum, S. J. (2005). Evidence-based practice as mental health policy: Three controversies and a caveat. *Health Affairs, 24*, 163–173.
- Tate, D. G. & Pledger, C. (2003). An integrative conceptual framework of disability: New directions for research. *American Psychologist, 58*, 289–295.

- Tucker, J. A., & Reed, G. M. (2008). Evidentiary pluralism as a strategy for research and evidence-based practice in rehabilitation psychology. *Rehabilitation Psychology, 53*, 279–293.
- Walker, B. B., Seay, S. J., Solomon, A. C., & Spring, B. (2006). Treating chronic migraine headache: An evidence-based practice approach. *Journal of Clinical Psychology: In Session, 62*, 1367–1378.
- Wampold, B. E. (1997). Methodological problems in identifying efficacious psychotherapies. *Psychotherapy Research, 7*, 21–43.
- Wampold, B. E. (2001). *The great psychotherapy debate: Models, methods, and findings*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Wampold, B. E. (2003). Bashing positivism and revering a medical model under the guise of evidence. *The Counseling Psychologist, 31*, 539–545.
- Wright, B. A. (1983). *Physical disability—A psychosocial approach*. New York: Harper & Row.