

THIRD EDITION

# RESEARCH *in* REHABILITATION COUNSELING

*A Guide to Design, Methodology, and Utilization*



PHILLIP D. RUMRILL, JR.  
JAMES L. BELLINI

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A Guide to Design, Methodology, and Utilization

*By*

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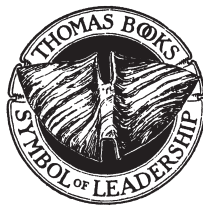
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*For Amy, Brian, Doug, Nate, Phil Sr.,  
Rick, Shirley, and Stuart*  
PDR

*For Hong Anh*



## PREFACE

This third edition was written as a primary text for graduate level students and practitioners concerning the role of research in contemporary rehabilitation counseling. As with the first two editions, our intent was to provide a comprehensive overview of the philosophical, ethical, methodological, and analytic fundamentals of social science research—as well as to specify aspects of rehabilitation research that distinguish it from scientific inquiry in other helping professions. Foremost among these distinctions are the clientele of people with disabilities and their role as valued partners in the research enterprise; the historical, philosophical, and legislative bases of rehabilitation counseling; and research utilization strategies.

This third edition represents the thorough revision that we believed necessary in order to accurately reflect the variation and wealth of research methodologies used in contemporary rehabilitation counseling research. We have added more than 300 new references to this edition, which represents a 30 percent revision of the second edition. Most of the research examples cited in this edition were published in peer-reviewed rehabilitation counseling journals over the past decade, and these examples represent the current status of research methods as well as the most relevant contemporary topic areas of research and scholarship in our field. Accordingly, this edition may be used both as a research textbook and as a general introduction to the current scholarship in our profession.

Like the previous two editions, the third edition of this book is divided into ten chapters. Chapter 1 establishes the theoretical underpinnings of social scientific inquiry; provides a foundation in the philosophical, epistemological, and methodological considerations related to the design and execution of rehabilitation research, and discusses the broad purposes of research in rehabilitation counseling. The updated Chapter 2 addresses issues that are preparatory to designing and evaluating rehabilitation research, such as sources of research ideas, translating research ideas into research hypotheses, identifying variables, and sampling issues. Chapter 3 discusses key measurement and statistical concepts used in the quantitative



research tradition, including reliability and validity of measurement instruments, the purposes of descriptive and inferential statistics in analyzing numeric data, and an updated section on methods of statistical analysis. Chapter 4 reviews ethical issues and guidelines for the design, implementation, and reporting of rehabilitation research. Chapter 5 addresses key criteria for evaluating the quality of rehabilitation research, drawing valid inferences from results, and generalizing findings from the research sample to the target population.

Chapters 6, 7, and 8 review the wide range of different quantitative, qualitative, and integrative approaches to doing rehabilitation research, and they provide examples of these from the recent rehabilitation literature. Chapter 6 addresses intervention/stimulus, relationship, and descriptive studies in the quantitative paradigm. Chapter 7 discusses qualitative methods of rehabilitation research. Chapter 8 examines and categorizes a variety of narrative literature reviews according to their purposes. Chapter 9 presents a published research article section by section, annotates the components and composition of a research report, and provides a protocol that students and practitioners can use to evaluate the technical soundness and scientific merits of published research articles. The concluding chapter of the text addresses future trends in rehabilitation counseling research in relation to fruitful topic areas and methodologies and as they apply to a variety of stakeholders (e.g., counselors, administrators, policymakers, educators, researchers, people with disabilities, consumer advocates).

Because this book was written as an introductory research methods textbook for graduate students in rehabilitation counseling, we focus much of the information contained herein on the role of readers as “professional consumers” of rehabilitation research. In doing so, we not only introduce the reader to the fundamentals of research design, we also serve the purpose of introduction to the professional literature in our field. This book provides the “basics” that one would need to begin conducting a research investigation, but we would encourage that person to supplement this book with coursework in statistics and advanced research design before initiating an independent empirical study.

PHILLIP D. RUMRILL, JR.  
JAMES L. BELLINI

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We are indebted to a number of funding agencies who have provided support and sponsorship for our research over the years, thereby enabling us to draw from numerous examples of completed research projects in developing this text, in teaching and advising our students, and in providing consultation to other researchers in the fields of rehabilitation counseling and disability studies. These agencies include the National Institutes of Health; the National Institute on Disability, Independent Living, and Rehabilitation Research; the Rehabilitation Services Administration; the National Multiple Sclerosis Society; the Ohio Learning Network; and the United States Department of Education, Office of Special Education Programs and Office of Postsecondary Education.

For their editorial assistance, we thank Ms. Aundrea Gee Cormier, Ms. Cassidy Pittman, Mr. Stuart Rumrill, Mr. Nathan Rumrill, and Ms. Aliza Weiss, all of the Kent State University Center for Disability Studies. We gratefully acknowledge Dr. Lynn Koch of the University of Arkansas, Dr. Tricia Niesz of Kent State University, and Ms. Melissa Jones Wilkins of the University of Arkansas for contributing an outstanding chapter (Chapter 7)

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Finally, we thank our fellow rehabilitation researchers and educators throughout the United States for their ongoing efforts to build a comprehensive knowledge base that informs and shapes rehabilitation counselor training and practice. Since the first edition of our book was published in 1999, we have seen substantial improvements in the quality and quantity of methodologically rigorous, scientifically sound, and practically relevant research regarding all aspects of the rehabilitation counseling process. We are proud to call the researchers who have made such significant advancements in our field our friends and colleagues.

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# **RESEARCH IN REHABILITATION COUNSELING**



## Chapter 1

# INTRODUCTION TO REHABILITATION COUNSELING RESEARCH

### INTRODUCTION

Rehabilitation counselors are professionals who “assist individuals with disabilities in adapting to the environment, assist environments in accommodating the needs of individuals, and work toward full participation of individuals with disabilities in all aspects of society, especially in work” (Szymanski, 1985, p. 3). Rehabilitation counseling research is directed toward (a) understanding the impact of disability on the social functioning of individuals, families, and groups, and (b) identifying effective practices that facilitate the successful accommodation of individuals with disabilities in their chosen environments. The fundamental aim of rehabilitation counseling research is to improve the lives of persons with disabilities by facilitating the achievement of their vocational and independent living goals (Bellini & Rumrill, 2009; Bolton, 1979). A large number of interrelated lines of inquiry have been pursued over the past five decades of rehabilitation counseling research, including (but not limited to): understanding the impact of disability on social functioning; understanding the characteristics of consumers of rehabilitation services (persons with disabilities) and their service needs; understanding the roles, functions, and professional practices of rehabilitation counselors; identifying consumer, counselor, and service provider characteristics that are associated with particular social and vocational outcomes; evaluating the impact of federal policy initiatives in the lives of individuals with disabilities; and evaluating the effectiveness of rehabilitation counseling interventions.



## SCIENCE AND REHABILITATION COUNSELING RESEARCH

Science is not a set of definitive results; rather, it is a way of understanding the world around us. In other words, the purpose of science is to establish knowledge (Kazdin, 2003; Shadish, 1995). Research methods are the techniques that are used to establish scientific knowledge. Within the domain of research methods, the concept of research design refers to the specific plans or arrangements that are used to examine questions of interest. Thus, the terms research methods and research design both focus on the specific decisions, options, and practices that characterize research (Kazdin, 2003). The quality of the methodology and design of a given investigation forms the essential basis for the strength of the knowledge claims or conclusions that researchers may derive from the research findings. Understanding the strengths and limitations of particular research methods and research designs permits consumers (i.e., readers) of research manuscripts to evaluate the quality of the research and the warrant for the knowledge claim given the findings that are reported.

Two broad and distinct categories of rehabilitation research methods are qualitative and quantitative approaches. Qualitative methods are based in a subjective, phenomenological approach to knowledge, and they are typically directed to the discovery of how individuals ascribe meaning to phenomena, investigation of previously unexplored phenomena, or examination of complex social phenomena (Bogdan & Biklen, 1998; Hagner & Helm, 1994). Qualitative research methods have their roots in anthropology and sociology and may include ethnographic studies, participant observation, case studies, or discourse analysis. Qualitative research methods have a long history of application in disability issues and have been particularly valuable in providing in-depth understanding of the lived experience of disability. Moreover, these methods are becoming more prevalent in rehabilitation counseling research. Recent examples of articles that reported the use of qualitative methods in rehabilitation research include explorations of how individuals with traumatic brain injuries compensate for cognitive limitations through the use of assistive technology (Nardone et al., 2015), the meaning that people with multiple sclerosis ascribe to employment (Meade et al., 2016), and the perspectives of notable leaders in the disability community regarding the accomplishments and continuing challenges of the disability rights movement (McCarthy, 2003).

Quantitative research design features the numeric expression of information for purposes of summarization, classification, analysis, and generalization. Thus, quantitative methods involve the measurement of variables of interest and the use of statistical analyses to identify relationships among

variables. With roots in nineteenth century philosophy of science and statistical methods largely borrowed from the physical sciences, the goal of quantitative research is the development of objective knowledge about nature and human nature. Contemporary quantitative researchers in the social sciences, like their colleagues who use qualitative methods, recognize that human experience is fundamentally subjective and that our knowledge about reality is embedded in particular social and cultural contexts (Phillips, 1987, 1992). However, post-positivist, quantitative researchers also assume that causal relationships exist outside the human mind, that humans are capable of discerning these causal connections among events in the world (albeit imperfectly), and that agreement among persons about the nature of these causal relationships forms the basis for the development of an objective knowledge of nature and human nature (Cook & Campbell, 1979; Manicas & Secord, 1983; Phillips, 1987; Strong, 1991). A more accurate term for the nature of this “objective” knowledge that highlights the subjective but public quality of consensus about what is “known” is intersubjective agreement, or agreement among members of the community of scientists and practitioners in a given field of study.

Quantitative research methods are widely used in rehabilitation research and include surveys, true experiments, quasi-experimental research in field settings, single-subject or small-N designs, and ex post facto (after the fact) designs. Quantitative research is important in evaluating the effectiveness of rehabilitation interventions, programs, and policies relative to the goals of rehabilitation; describing the characteristics of programs and program participants; needs assessment; and theory testing. One of the key advantages of quantitative research is that vast amounts of data from large numbers of people can be aggregated, analyzed, and summarized to provide program participants, administrators, policymakers, and other interested parties with key information about questions of interest.

Recent examples of articles that used quantitative research methods in rehabilitation counseling include the examination of patterns in perceived workplace discrimination among persons with multiple sclerosis (Roessler, Rumrill, Li, & McMahon, 2016); an exploration of the major job functions that are perceived as important for rehabilitation practice by certified rehabilitation counselors (Leahy, Chan, Sung, & Kim, 2013); and an analysis of client characteristics and vocational rehabilitation services received as determinants of competitive employment outcomes among transition-age youth with visual impairments and blindness (Cimera et al., 2015).

Although quantitative and qualitative methods have different historical roots, philosophical assumptions, approaches to discovering knowledge, techniques for ensuring researcher neutrality regarding the content of the re-

search, and ways of evaluating the validity of knowledge claims, no research method is more valid than the other. Rather, each method is appropriate for answering certain types of questions and less appropriate for answering other questions. The choice of research methodology is largely a function of the nature of the phenomena we wish to understand and the types of research questions that are posed. Nor should qualitative and quantitative approaches be perceived as mutually exclusive. Rather, qualitative and quantitative methods can be effectively combined in a single study (or a series of studies) to enhance the validity of the knowledge gained (Cook, 1985; Cook & Campbell, 1979; Szymanski, 1993). Cook and Campbell (1979) maintained that “field experimentation (i.e., quantitative studies in community settings) should always include qualitative research to describe and illuminate the context and conditions under which research is conducted” (p. 93).

## SCIENCE AND KNOWLEDGE CLAIMS

Knowledge comes from many sources, and the quality of the source of knowledge often determines whether the knowledge will be accepted. To gain an appreciation for the efficacy of knowledge claims based on scientific methods, it is useful to compare the scientific approach to establishing knowledge to other common approaches. The framework discussed below follows Krathwohl (1998) and includes knowledge gained from personal observation and experience, intuition, tradition, and authority.

### *Personal Observation and Experience*

Personal observation and experience comprise the source of knowledge that we trust most. “I’ll believe it when I see it” is an expression of this universal knowledge standard. Moreover, it appears to be an essential characteristic of human beings to seek order or patterns in their experience. To perceive a pattern means that we have already formed an idea of “what comes next.” Thus, the ability to perceive patterns in our observations and experiences allows us to understand, predict, and possibly control what happens to us, thereby changing the outcome from what might have been.

So, personal experience, and particularly those experiences that can be organized into patterns, is a vital source of knowledge. In fact, it is the raw stuff of science, because the personal experience of the scientist is often the catalyst for research questions that the scientist may pursue. The personal experience of the scientist may also be the primary data for the investigation, particularly in qualitative methods such as participant observation and ethnographic research.