

CONDUCTING AND READING RESEARCH
in Health and Human Performance

Second Edition

Ted A. Baumgartner / Clinton H. Strong

Conducting and Reading Research in Health and Human Performance

Second Edition

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CONDUCTING AND READING RESEARCH IN HEALTH AND HUMAN PERFORMANCE

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Preface

This book was developed based on the methods its authors have used to teach the master's-level introduction to research course for many years. It is assumed that students come to this course with varied backgrounds in areas related to health and human performance, such as dance, exercise science, health, kinesiology, physical education, recreation, and sports management. The two major objectives of our courses are to teach the student how to conduct their own research and how to read with understanding the research that others have done. The book is comprehensive yet practical and understandable. Many examples of the application of various research methods and techniques are presented in an attempt to increase the students' grasp of the research process.

Many students begin the introduction to research course with little research background, little interest in research, and considerable fear about their ability to succeed in the course. These students typically do not write a master's thesis. However, it is still important that they develop an appreciation for research and an understanding of how different types of research are conducted so they will become good consumers and readers of the research of others. The book is certainly written with this type of student in mind.

Other students begin the introduction to research course knowing they will write a master's thesis or complete a master's project. These students need to be aware of the many possible research approaches and the procedures that are basic to many types of research. This book will also serve the needs of this type of student.

Doctoral students and beginning researchers who want an overview of the research process should find this book helpful. However, the procedures and techniques specific to a certain type of research in a specialized area are generally not covered in this book.

In chapter 2 we suggest that a research project begins with the identification of a research topic and progresses through a series of steps until the research is conducted and a report describing the research project is written. The book's chapters

are organized in this manner. The first four chapters are essential to cover. Portions of chapters 5 through 9 may be covered quickly if only certain types of research are of interest to the student. Likewise, some of the content in chapters 10 through 12 could be omitted depending on the particular interests and needs of the students.

The two chapters on creative research and qualitative research are new and different. The two statistics chapters are inclusive but are presented with an orientation toward practical use and without emphasis on calculational ability. The computer programs accompanying the statistics chapters are presented with considerable explanation and use of examples. Even the emphasis on doing and understanding research is somewhat unique in this book.

The second edition of the book is not an extensive change from the first edition. Minor changes have occurred in each chapter to update the information presented, improve the presentation of the information, and eliminate a few problems identified in the first edition. The biggest changes are reference to a better computer program in the statistics chapters, the addition of key words and objectives at the beginning of each chapter, and the addition of formative evaluation of objectives at the end of each chapter.

This book is the product of the influence of many people and occurrences. First, the professors who trained and educated the authors must be recognized. Second, the research experiences of the authors have been influential. Third, the experience of teaching the introduction to research course and the feedback from the students in the course is reflected in the book. Finally, thanks must be expressed to people in the profession who reviewed the preliminary book manuscript and suggested improvements:

Stan Bassin
California State University, Pomona

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Mark Huntington
Manchester College

Mark Kelley
Southeastern Louisiana University

Beverly Mitchell
Kennesaw State College

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Finally, the authors must thank their wives and families for allowing them to write the book. Adjustments and sacrifices were necessary by all in order for the book to be completed.

T.A.B.
C.H.S.

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Conducting and Reading Research in Health and Human Performance

part

I

THE RESEARCH PROCESS



Research is exciting and challenging, and it makes an essential contribution to the development of those health and human performance (HHP) professionals who engage in it. Research accomplished by dance, exercise science, health, kinesiology, physical education, recreation, and sports management workers is exciting because the results frequently contribute to the pool of knowledge from which the fields of HHP can draw for purposes of application. It is challenging because the exploration of research ideas demands critical thinking and requires that judgment be exercised on procedural as well as conceptual questions. It contributes to the professional's development because the process builds a new set of skills that can be used to better comprehend the research literature and to recognize new questions that need to be researched.

Beginning graduate students in HHP frequently believe that research is foreign, abstract, and remote. They often feel totally incompetent, probably because they lack a basic understanding of the research process. A good course in research methods and statistics can lay the groundwork for attaining the high level of competency enjoyed by many of today's HHP professionals.

In Part I, the research process is introduced in four chapters. Chapter 1, "The Nature and Purpose of Research" details (1) the importance of research in the acquisition of knowledge by HHP professions, (2) how the scientific method of solving problems fits into the research process, (3) types of research, (4) the relationship of hypotheses to research, (5) the significance of research in HHP, and (6) ethical concerns in the research process. Chapter 2, "The Research Problem," discusses (1) how research problems are initiated, selected, and defined, (2) the importance of literature to the research process, and (3) the development of a research proposal.

Chapter 3, "Selected Elements in the Research Process," covers (1) the concepts underlying various approaches to research, (2) the way variables are used in research, (3) some of the more common HHP research methods and techniques, and (4) considerations in selecting or developing data collection instruments. Chapter 4, "Selection of Research Subjects: Sampling Procedures," addresses (1) the importance of procuring subjects appropriate for the research, (2) the concepts of population and sample, (3) subject selection methods, and (4) sample size.

1

The Nature and Purpose of Research

Key Words

Action research
Applied research
Basic research
Deductive reasoning (logic)
Directional hypothesis
Empiricism

Hypothesis
Imperfect induction
Induction
Nondirectional hypothesis
Perfect induction
Research classifications

Research hypothesis
Scientific method
Statistical (null) hypothesis
Syllogism
Theory

Objectives

Members of the HHP professions have a wealth of information upon which they make decisions. Quite frequently, this knowledge is passed down to us by other individuals, as opposed to our discovering knowledge through personal, direct observation types of experiences. Many times we don't bother to examine the source of the information prior to using it. However, when members of a profession engage in various aspects of the research process, current information can be checked out, along with the possibility of new knowledge being discovered.

After reading chapter 1, you should be able to:

1. Explain the relationship between research and a profession.
2. Know the various methods used in the way knowledge has been obtained in the past and how it is currently obtained.
3. Know the various types and classifications of research.
4. Distinguish between a hypothesis and a theory.

The Essence of a Profession: Knowledge

The professions of HHP produce a variety of monthly, quarterly, and annual publications. Articles, books, theses, and dissertations are a necessary part of the formal education and in-service education of the members of a profession, and the quality and quantity of such publications are an index of the vitality and soundness of a profession as a whole. The publications, and their use, also identify the professional stature of individual members. The information contained in the publications contributes greatly to the body of knowledge of a profession. A continuous flow of new facts and ideas must come from the laboratory and seminar, and this new information