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EDITORS

HEALTH BEHAVIOR AND HEALTH EDUCATION

Theory, Research,
and Practice

3rd EDITION



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Foreword by Noreen M. Clark



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FOREWORD

Noreen M. Clark

Why do people behave as they do? How does what they do affect their health? What causes them to change their health-related behavior? These are intriguing questions for just about everyone but most especially for public health professionals.

Research findings provide undeniable evidence of the central role of behavior in the world's major health problems. The same research has frequently elucidated the difficulty associated with understanding and changing behavior, and the complex array of factors that combine to produce behavior is fascinating to consider. Think for a moment about the multiple influences that cause one to become a smoker, or to eat in ways deleterious to health, or to engage in unprotected sex. Think, too, of the range of factors that enable people to continue such behaviors or deter them from giving them up. Having information about potential ill effects is usually insufficient in itself to trigger change. Tobacco use and overeating both provide examples of cases in which most people who smoke or are overweight know their behavior isn't good for them. Achieving behavior change is one of the knottiest and most interesting processes associated with being fully healthy.

With the recent surge in DNA-related research, many people have come to believe that genomic science will uncover the gene responsible for each extant health condition and obviate the need to tackle behavior. Scientists working in gene-based research, however, are the first to say this is wishful thinking. Certainly, most diseases will be associated with several genes and, in the opinion of genetic

experts as well as behavioral scientists, behavior will continue to account for the greatest variance in disease onset and progression.

When discussing improvements in health status, the reciprocal influence of individual and collective behavior can't be overstated. More and more evidence points to how collective health behavior shapes the individual and individual behavior influences dimensions of collective health. Promoting well being, therefore, requires as much focus on communities as on individuals and, as important, on the complex interaction between the two. The dramatic decrease in smoking in the last quarter of a century is often attributed to combined efforts to assist individuals to quit and to help create new communitywide behavioral norms and expectations. The dramatic rise in smoking in cohorts of the population (for example, young women) is often attributed to the failure both to reach particular subgroups of individuals and to influence their reference communities. Behavior evident communitywide is greatly influenced by the resources and social capital available within the community and how these can be accessed by residents. No one could fail to notice, for example, the blending of community and individual actions that enabled New Yorkers to weather the 2001 terrorist attacks. Community infrastructure and material resources coupled with motivation, skills, and social connectivity of individuals led to rapid action under the most dire circumstances.

As research and practice related to behavior and behavior change grow in sophistication, work has been increasingly marked by efforts to make sense of a variety of associated causal factors. Models have evolved that attempt to account for the range of psychological, social, structural, and other salient elements that predict behavior. More advanced analytical techniques are enabling assessment of intricate and complicated relationships. The need for evermore robust methods has greatly increased with recent advances in both genomic and behavioral science. Consider that with the mapping of the human genome, twenty thousand data points at least will describe the DNA of a single individual. How will we combine these data with behavioral data, with demographic information, and with community descriptors to anticipate behavior or health status? What happens when we wish to look at a whole community of people using such complex data sets? In the coming decades, the growing capacity for data analysis will enable behavioral researchers to move health education theory, research, and practice light years forward in their contribution to improving health.

The characteristic that has always separated the successful health education researcher and practitioner from those less effective is the use of theory; that is, the capacity to translate it into interventions. This ability is gaining even more currency as more theoretical models are available and receive more testing. The third edition of *Health Behavior and Health Education: Theory, Research, and Practice* has been compiled precisely to help the health education community understand how

theory informs both research and practice and how these in turn inform theory. The text has been updated to reflect the most recent work. The authors have extensive research and practice experience and use it to assess applications and to speculate on future directions for health education. The revised text is timely and welcome particularly as it arrives at a period of rapid maturation of the field. Health education has a great deal to offer worldwide health improvement, and this volume has much to offer health education.

Ann Arbor, Michigan
June 2002

PREFACE

Programs to influence health behavior, including health promotion and education programs and interventions, are most likely to benefit participants and communities when the program or intervention is guided by a theory of health behavior. Theories of health behavior identify the targets for change and the methods for accomplishing changes. Theories also inform the evaluation of change efforts by helping to identify the outcomes to be measured, as well as the timing and methods of study to be used. Such theory-driven health promotion and education efforts stand in contrast to programs based primarily on precedent, tradition, intuition, or general principles.

Theory-driven health behavior change interventions and programs require an understanding of the components of health behavior theory, as well as the operational or practical forms of the theory. The first edition of *Health Behavior and Health Education: Theory, Research, and Practice*, published in 1990, was the first text to provide in a single volume an in-depth analysis of a variety of theories of health behavior relevant to health education. It brought together dominant health behavior theories, research based on those theories, and examples of health education practice derived from theory that had been tested through evaluation and research processes. The second edition of *Health Behavior and Health Education*, published in 1996, updated and improved upon the earlier volume.

It has been over five years since the release of the second edition of this book, and the third edition of *Health Behavior and Health Education* once again updates and

improves on the preceding edition. Its main purpose is the same: to advance the science and practice of health behavior and health education through the informed application of theories of health behavior. Likewise, this book serves in three ways as the definitive text for students, practitioners, and scientists in these areas and in education: by analyzing the key components of theories of health behavior relevant to health education, by evaluating current applications of these theories in selected health promotion programs and interventions, and by identifying important future directions for research and practice in health promotion and health education.

The third edition responds to new developments in health behavior theory and the application of theory in new settings, to new populations, and in new ways. This edition includes an enhanced focus on the application of theories in diverse settings; an expanded section on using theory, including its translation for program planning; and chapters on additional theories of health behavior. One new chapter addresses the challenges and opportunities afforded by the rapid growth in new communication technologies. Another presents the RE-AIM Model, an evaluation model that is compatible with increasing the yield of research on theory-driven interventions.

Audience

Health Behavior and Health Education speaks to graduate students, practitioners, and scientists who spend part or all of their time in the broad arenas of health behavior change, health promotion, and health education; the text will help them both to understand the theories and to apply them in practical settings. Practitioners as well as students will find this text a major reference for the development and evaluation of theory-driven health promotion and education programs and interventions. Researchers should emerge with a recognition of areas in which empirical support is deficient and theory-testing is required, helping to set the research agenda for health behavior and health education.

This book is intended to assist all professionals who value the need to influence health behavior positively. Their fields include health promotion and education, medicine, nursing, health psychology, behavioral medicine, health communications, nutrition and dietetics, dentistry, pharmacy, social work, exercise science, clinical psychology, and occupational and physical therapy.

Overview of the Book

The authors of this text bring to their chapters an understanding of both theory and its application in a variety of settings that characterize the diverse practice of public health education, for example, worksites, hospitals, ambulatory care settings,

schools, and communities. The chapters, written or updated expressly for the third edition of this book, address theories and models of health behavior at the level of the individual, dyad, group, organization, and community.

The book is organized into five parts. Part One defines key terms and concepts. The next three parts reflect important units of health behavior and education practice: the individual, the interpersonal or group level, and the community or aggregate level. Each of these parts has several chapters, and ends with a perspectives chapter that synthesizes the preceding chapters. Part Two focuses on theories of individual health behavior, and its chapters focus on variables *within individuals* that influence their health behavior and response to health promotion and education interventions. Four bodies of theory are reviewed in separate chapters: the Health Belief Model, the Theory of Reasoned Action and the Theory of Planned Behavior, The Transtheoretical Model, and the Precaution Adoption Process Model. Part Three examines interpersonal theories, which emphasize elements in the *interpersonal* environment that affect individuals' health behavior. Chapters focus on Social Cognitive Theory, social networks and social support, stress and coping, and social influence and interpersonal communication. Part Four covers models for the community or aggregate level of change and includes chapters on community organization, adoption and diffusion of innovations, organizational change, and media communications. Part Five explores "using theory," which presents the key components and applications of overarching planning and process models and a discussion of the application of theory in culturally unique and other unique populations. It includes chapters on the PRECEDE-PROCEED model of health promotion planning; social marketing; ecological models; cultural, ethnic, and socioeconomic factors; theoretical bases for communication technology; and the RE-AIM evaluation model.

The major emphasis of *Health Behavior and Health Education* is on the analysis and application of health behavior theories to health promotion and education practice. Each core chapter in Parts Two, Three, and Four begins with a discussion of the background of the theory or model and a presentation of the theory, reviews empirical support for it, and concludes with one or two applications. Synthesis chapters review related theories and summarize their potential application to the development of health education interventions. Strengths, weaknesses, areas for future development and research, and promising strategies are highlighted.

Chapter authors are established researchers and practitioners who draw on their experience in state-of-the-art research to critically analyze the theories and apply them to health education. This text makes otherwise lofty theories accessible and practical and advances health education in the process.

No single book can be truly comprehensive and still be concise and readable. Decisions about which theories to include were made with both an appreciation of

the evolution of the study of health behavior and a vision of its future (see Chapter Two). We purposely chose to emphasize theories and conceptual frameworks that encompass a range from the individual to the societal level. We acknowledge that there is substantial variability in the extent to which various theories and models have been codified, tested, and supported by empirical evidence. Of necessity, some promising evolving theories were not included.

The first two editions of *Health Behavior and Health Education* grew out of the editors' own experiences, frustrations, and needs, as well as their desire to synthesize the diverse literatures and to draw clearly the linkages between theory, research, and practice in health behavior and education. We have sought to show how theory, research, and practice interrelate and to make each accessible and practical. In this edition we have attempted to respond to changes in the science and practice of health promotion and to update the coverage of these areas in a rapidly evolving field. Substantial efforts have been taken to present findings from health behavior change interventions based on the theories that are described and to illustrate the adaptations needed to successfully reach diverse and unique populations. *Health Behavior and Health Education* has now been established as a widely used text and reference book. We hope the third edition will continue to be relevant and useful and to stimulate readers' interest in theory-based health behavior and health education. We aspire to provide readers with the information and skills to ask critical questions, think conceptually, and stretch their thinking beyond using formulaic strategies to improve health.

Acknowledgments

We owe deep gratitude to all the authors whose work is represented in this book. They worked diligently with us to produce an integrated volume, and we greatly appreciate their willingness to tailor their contributions to realize the vision of the book. Their collective depth of knowledge and experience across the broad range of theories and topics far exceeds the expertise that the editors can claim. We also wish to acknowledge authors who contributed to the first and second editions of this text; although some of them did not write chapters for this edition, their intellectual contributions form an important foundation for the present volume.

Lori Crane and Linda Baumann provided timely and insightful reviews of the chapters at a crucial stage in the book's development. The staff at Jossey-Bass provided valuable support to us for development, production, and marketing from the time that the first edition was released through completion of this edition. Our editor at Jossey-Bass, Andy Pasternack, provided encouragement, assistance, and exceptional guidance throughout.

The editors are indebted to their colleagues and students who, over the years, have taught them the importance of both health behavior theories and their cogent and precise representation. They have challenged us to stretch, adapt, and continue to learn through our years of work at Stanford University, the University of Michigan, The Johns Hopkins University, Temple University, the University of Washington, Fox Chase Cancer Center, Duke University, the University of Hawai'i, and the National Cancer Institute (NCI).

We particularly want to acknowledge Bill Rakowski for his insightful comments and reflections on theory. We appreciate the staff and colleagues at NCI whose dedication to their jobs made it possible for Barbara Rimer to remain a part of the editorial team: Arline Sanchez, Tina Felix, Stacy Vandor, Bob Croyle, and Bob Hiatt.

Completion of this manuscript would not have been possible without the continuous and dedicated assistance of Gwen Ramelb, Rochelle Fujisawa, Kathy Doering, Jared Kuroiwa, Elly Mar Aganon, Linda Nguyen, and Nanette Camacho.

We also wish to express our thanks to our colleagues, friends, staffs, and families, whose patience, good humor, and encouragement sustained us through our work on this book.

June 2002

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THE EDITORS

Karen Glanz is professor and director of the Social and Behavioral Sciences Program at the Cancer Research Center of Hawai'i at the University of Hawai'i in Honolulu. From 1979 to 1993, she was professor in the Department of Health Education at Temple University in Philadelphia. She received her B.A. degree (1974) in Spanish and her M.P.H. (1977) and Ph.D. (1979) degrees in health behavior and health education, all from the University of Michigan.

Glanz's research and academic interests have been in the area of health behavior change program development and evaluation, cancer prevention and control, ethnic differences in health behavior, and risk communication. She is currently principal investigator on four federally funded research grants that test health behavior change interventions for skin cancer prevention, colorectal cancer risk counseling, and youth tobacco prevention. Glanz's scholarly contributions consist of more than two hundred journal articles and book chapters.

In 1984 Dr. Glanz received the Early Career Award of the Public Health Education Section of the American Public Health Association (APHA), and in 1992 she was a co-recipient (with Frances Lewis and Barbara Rimer) of the Mayhew Derbyberry Award for outstanding contributions to theory and research in health education, also from the Public Health Education and Health Promotion Section of APHA. She received the Mohan Singh Award for contributions to humor in health education in 1996, and her recent community health education programs have received several national awards for innovative programs and program excellence.

Glanz was a member of the Behavioral Medicine Study Section of the National Institutes of Health from 1995 to 2000, and serves on numerous advisory boards and committees for scientific and health organizations in the United States and abroad. Dr. Glanz currently or recently has served on the editorial boards of several journals including the *American Journal of Health Promotion*; *Health Education Research*; *Patient Education and Counseling*; *Cancer Epidemiology, Biomarkers, and Prevention*; and *Health Psychology*.

Glanz was visiting professor at Teachers College, Columbia University, in 1982 and spent 1987 to 1988 as a visiting scholar in the division of epidemiology at the University of Minnesota School of Public Health. She was visiting professor at the School of Public Health at Queensland University of Technology in Brisbane, Australia, in 1994 and 1995.

Barbara K. Rimer is professor of Health Behavior and Health Education at the University of North Carolina School of Public Health, Chapel Hill. From 1997 to 2002, she was director of Cancer Control and Population Sciences at the National Cancer Institute, and from 1991 to 1997, she was director of Cancer Prevention, Detection and Control Research and professor of community and family medicine at Duke University Medical Center.

Dr. Rimer received her B.A. degree (1970) and her M.P.H. degree (1973) from the University of Michigan, and her Dr.P.H. degree in Health Education (1981) from the Johns Hopkins School of Hygiene and Public Health. Dr. Rimer's research has focused on several broad areas of cancer control. These include developing and testing targeted and tailored strategies for behavior change and informed decision making. Most recently, these strategies have included "expert-system-like interventions" created especially for the recipients. Dr. Rimer's research has included the following topic areas, among others: smoking cessation, mammography decision making and screening for women of different ages, and informed decision making about genetic testing for cancer susceptibility. She was a continuously funded NIH grantee from 1982 to 1997 and is the author of more than two hundred scientific articles.

From 1994 to 1997, Dr. Rimer was the presidentially appointed chair of the National Cancer Advisory Board. In 1997 she was given the Distinguished Achievement Award from the American Society for Preventive Oncology, and the Herbert J. Block Leadership Award from Ohio State University; she received the John P. McGovern Award in Health Promotion from the University of Texas School of Public Health in 1998 and the American Cancer Society Distinguished Service Award in 2000. Dr. Rimer is a member of several editorial boards, including those of *Effective Clinical Practice*; *Breast Diseases*; *Cancer Causes and Control*; *Cancer Epidemiology, Biomarkers, and Prevention*; *Patient Education and Counseling*; *Preventive Medicine*; and the *American Journal of Health Promotion*.

Frances Marcus Lewis is the Elizabeth Sterling Soule Distinguished Professor of Health Promotion and Nursing at the University of Washington. She received her B.S.N. degree and graduated summa cum laude (1967) from Loretto Heights College in Denver and received her M.N. degree (1968) from the University of Washington. She received her Ph.D. degree (1977) in sociology of education from Stanford University and completed her postdoctoral training (1978) in health education at the Johns Hopkins University School of Hygiene and Public Health.

Since 1983 she has devoted much of her research career to the development and testing of theoretical predictive models of health behavior and health outcomes in persons and family members affected by cancer and other life-threatening, chronic illnesses. Currently, Dr. Lewis is principal investigator of a National Cancer Institute-funded multistate clinical trial to enhance the functioning of family members, including children, affected by cancer in the mother.

Dr. Lewis is a member of the Public Health Sciences Division of the Fred Hutchinson Cancer Research Center, where she is a Full Affiliate Fellow appointment. She has recently delivered several distinguished lectureships, including the Bice Memorial Lectureship, University of Virginia; the Potter Memorial Lectureship, Emory University; and the Marion Woodruff Memorial Lectureship, University of British Columbia. Dr. Lewis has received a number of national awards, including the Distinguished Researcher Award of the Oncology Nursing Society, and was named a Fellow of the Japanese Society for the Promotion of Science. Most recently, she served for four years as one of the four technical lead consultants for a U.S. A.I.D. grant, during which the team developed regional breast cancer screening programs and behavioral-theory-based training for multiple medical workers, including physicians and psychologists. Currently, Dr. Lewis sits as a member and recent cochair for the California Breast Cancer Research Program, University of California, as well as a grant reviewer for the National Institutes of Health. She is a review board, reviewer, or editorial board member for *Journal of Marriage and the Family*, *Journal of Psychosocial Oncology*, *Health Education Research*, *Health Psychology*, *American Journal of Health Behavior*, *Social Science and Medicine*, and *Nursing Research*, among others.

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