

A complex network diagram consisting of numerous interconnected nodes and lines, rendered in a light blue/white color against a dark purple background. The nodes vary in size and are connected by thin lines, creating a dense web of relationships.

# HEALTH BEHAVIOR

THEORY, RESEARCH, AND PRACTICE

FIFTH

5

EDITION

KAREN GLANZ · BARBARA K. RIMER  
K. VISWANATH

EDITORS

WILEY



# **HEALTH BEHAVIOR**

## **THEORY, RESEARCH, AND PRACTICE**

Fifth Edition

**Karen Glanz**  
**Barbara K. Rimer**  
**K. Viswanath**  
**EDITORS**

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*In memory of my father, Michael Glanz, who lived so well and so long, and whose unconditional love and support helped me to succeed in work and in life.*

*K. G.*

*In memory of Irving Rimer, my father, who did so much to reduce smoking rates in the U.S. He inspired me and others through his love, courage, conscience, and creativity. And with thanks to my husband, Bernard Glassman, whose support enables me to accomplish more than I could achieve alone.*

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*To my parents and their parents who modeled a life of honesty, industry, and kindness to their children and grandchildren.*

*K. V.*



Health is inseparable from behavior. According to one CDC study, individuals who engaged in one or more of three healthy behaviors—*not smoking, eating a healthy diet, and getting adequate physical activity*—substantially reduced their risk of death within the next six years. The greatest benefit was seen among those who engaged in all three healthy behaviors. But if the benefits of a healthy lifestyle are so clear, why aren't these behaviors more common, and why are they so difficult to change.

This fifth edition of *Health Behavior: Theory, Research, and Practice* provides a compelling and practical response to these difficult questions. This volume is compelling because it provides vivid illustrations of the multiple determinants and complex mechanisms underlying health behavior. It is practical in that it provides a feasible roadmap for conceptualizing, measuring, and changing health behaviors within everyday contexts.

The challenges faced by any individual or organization that seeks to influence health behaviors are many. Where should we focus? What strategies should we use? What outcomes should we measure? Whether we are working in a local or national context, the temptation often is to rely on intuition or the least controversial strategy. But as this book demonstrates, such an approach is not only inappropriate but inexcusable. Given the scarcity of resources to support health behavior programs and the scale of the problems to be addressed, it is essential that we rely on sound research evidence and a rigorous and explicit conceptualization of both the target behaviors and the strategies required to modify them. A complete understanding of behavior is not a prerequisite to action, but action uninformed by the best available theory and evidence concerning the determinants of that behavior is foolish.

The unique role that this and previous editions of this classic text are playing in the evolution of health behavior theory, research, and application cannot be underestimated. For many years, an unfortunate schism between research and practice existed, and to some extent, it still exists. Much of the literature in the field has been either too esoteric and theoretical or too limited in its rigor and generalizability. Current and future leaders in the field need to learn how best to balance the conceptual with the practical. This book is designed precisely to fill that gap. The chapters throughout this book recognize and appreciate this fundamental challenge but then go on to demonstrate the practical utility of theory in a variety of public health contexts. The solutions are imperfect and evolving, but as in all fields of science, progress has been facilitated through the development of new methods, the testing and refinement of theories, and the diversification of our workforce. The growth of transdisciplinary team science has continued to challenge traditional ways of thinking within the research community

while the substantive engagement of community stakeholders has informed the application of theories to implementation strategies.

Within the context of other books in the field, this one does not focus on one problem domain, nor does it focus on one theoretical approach. The goal instead is to provide students and practitioners with a diverse set of theories and applications in order to illustrate how to rigorously conceptualize problems and how best to address them in ways that test these conceptualizations. Rather than advocating one “best theory,” this book illustrates the reciprocal nature of understanding and action, encouraging the reader to consider the context of the problem, the relevant levels of analysis, and the importance of measuring key constructs. Generalizable knowledge depends on the careful assessment of mechanisms underlying behavior change, and the work described here indicates that there is an ongoing need for basic behavioral science. That work is described elsewhere, as is purely applied work that focuses entirely on a particular health behavior or problem context. The achievement of this book is that it provides the reader with foundational knowledge concerning the theory-intervention interface in a manner that is relevant to both researchers and practitioners.

As in previous editions, the editors have enlisted an impressive group of experienced scholars who have conducted some of the best theoretically based intervention research. The scope of the volume has expanded, in terms of both the theories covered and the increased emphasis on disparities and theory utilization. Given rapid changes in information technology and the information environment, the current edition also reflects changes in how health communication strategies are conceptualized. As new sources of *big data*, such as social media, become available to health behavior scientists, the tension between atheoretical exploratory analysis methods and more focused, theoretically driven research is likely to grow. Although exploratory analytic methods will continue to uncover unanticipated relationships and generate hypotheses, the work described in this book demonstrates the unique value of theory in establishing priorities for measurement and targeted intervention.

Perhaps no other policy context in recent years has generated as much discussion and debate as health insurance and health care reform. Much of the debate surrounding how best to improve the quality and efficiency of health care focuses on strategies for changing the behavior of patients, providers, administrators, and health care systems. It is worth noting that many of the discussions suffer from a lack of appreciation for many of the key themes and challenges addressed in this book. What are the theories of change underlying the predictions and interventions offered by proponents and critics of reform? Are assumptions clearly and explicitly stated so that they can be tested against the data? If so, to what degree does the evidence support predictions derived from the theory? Do theories adequately address behavior change at multiple levels of the organization? How do changes in the context of patient care influence behaviors at the individual patient and provider level? In order to test theories of health reform, we need valid measures of theoretical constructs such as coordinated care, patient-centered care, and the value of care. Do these measures exist, and if so, are they being used appropriately?

The example of health care reform illustrates how vital the knowledge and skills afforded by this volume are in a complex and contentious policy environment. Our progress against obesity,

tobacco use, diabetes, asthma, alcohol abuse, and many other health problems will depend on our ability to thoughtfully utilize and evaluate theories of health behavior in order to maximize the impact of health behavior interventions. Policies can serve as constraints or facilitators at any level and we urgently need more evidence concerning the impact of policies on individual behaviors. We also need more theory-based policy, tested in many cases through natural experiments such as state-to-state variation. By reviewing the research evidence and theories described here, the reader will be in a much stronger position to contribute thoughtfully and substantially to some of the most important health policy debates facing nations around the world. Just as global health has served as a catalyst for the growth of implementation science, debates concerning the most effective strategies for preventing disease will only strengthen the demand for individuals who are knowledgeable about health behavior theory, research, and practice. This book provides a timely and essential foundation for students, researchers, or practitioners who want to make meaningful and long-lasting contributions to the health and vitality of their fellow citizens.

Robert T. Croyle  
Bethesda, Maryland  
July 2015





Programs to influence health behavior, including health promotion and education programs and interventions, are more likely to benefit participants and communities when guided by a theory or theories of health behavior. Theories of health behavior can help program planners to consider in a systematic way the sources of influence on particular health behaviors, and to identify the targets for behavior change and methods for accomplishing these changes. Theories also can inform the evaluation of change efforts by helping planners, evaluators, and others to specify the outcomes to be measured, as well as the timing and methods of study to be used. Although the evidence is not unequivocal, when they are developed and implemented thoughtfully and systematically, 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 theories, as well as the operational or practical forms of the theories. The first edition of *Health Behavior and Health Education: Theory, Research, and Practice*, published in 1990, was the first text to provide an in-depth analysis of a variety of theories of health behavior relevant to health education in a single volume. 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. The second (1996), third (2002), and fourth (2008) editions of *Health Behavior and Health Education* updated and improved upon the earlier volumes. People around the world are using this book. It has been translated into multiple languages, including, most recently, Japanese, Korean, and Chinese editions.

It has been over six years since the release of the fourth edition of this book. We are confident that the fifth edition of *Health Behavior: Theory, Research, and Practice* improves upon the preceding edition, as each earlier edition has done. We have shortened the title to reflect the broad influence of health behavior theory and research, which is not limited to health education and health promotion. The main purpose of the book is the same: to advance the science of understanding health behavior and the practice of health behavior change through the informed application of theories of health behavior. Likewise, this book serves as the definitive text for students, practitioners, and scientists in these areas and in education in three ways: by analyzing the key components of theories of health behavior, describing current applications of these theories in selected public health and health promotion programs and

interventions, and identifying important future directions for research and practice in health behavior change.

The fifth edition responds to new developments in health behavior theories and the application of theories in new settings, to new populations, and in new ways. We have moved the chapter on ecological models to the first section of the book to set the stage for the subsequent chapters grouped into individual-, interpersonal-, and community-level theories and models. The previous edition's chapter on social networks and social support is now two separate chapters, reflecting the increasing activity and maturation of theory-driven research on social networks. We have added a chapter on behavioral economics and its application to understanding and improving health behavior. Three chapters in the fourth edition do not appear in this edition: "The Precaution Adoption Process Model," "Mobilizing Organizations for Health Promotion: Theories of Organizational Change," and "Evaluation of Theory-Based Interventions." However, key elements from these earlier chapters are integrated into other chapters in this volume.

This edition includes an enhanced focus on the application of theories for diverse populations and settings; an expanded section on using theory, including its translation for program planning; and chapters on additional theories of health behavior. More global applications from both developing and developed countries are included. As new information and communication technologies have opened up an unprecedented range of strategies for health behavior change, this edition integrates coverage of e-health into health intervention examples throughout the book. Issues of culture and health disparities are also integrated into many chapters. These issues are of broad and growing importance across many theories and models. We believe that these additions strengthen the book and increase its appropriateness for use in settings around the world.

## Audiences

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

This book is intended to assist all professionals who value the need to influence health behavior positively. Their fields include health promotion and education, health communication, medicine, nursing, public health, 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

This volume presents an up-to-date understanding of both theory and its application in a variety of settings that characterize the diverse practice of health behavior change, public health, and health promotion: for example, worksites, hospitals, ambulatory care settings, community-based organizations, schools, and communities. The chapters, written expressly for this fifth edition, address theories and models of health behavior at the individual, interpersonal, group, organization, and community levels and present approaches that are integrated across multiple levels.

This book is organized into five parts. Part One defines key terms and concepts and introduces ecological models. 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 begins with an introductory chapter to orient readers to the subsequent chapters and their interrelationships. 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. Three bodies of theory are reviewed in separate chapters that address the Health Belief Model; the Theory of Reasoned Action, Theory of Planned Behavior, and the Integrated Behavioral Model; and The Transtheoretical Model. Part Three examines interpersonal theories, which emphasize elements in the interpersonal environment that affect individuals' health behavior. Five chapters examine social cognitive theory, social support, social networks, stress and coping, and interpersonal communication. Part Four covers models for the community or aggregate level of change, and includes chapters on community engagement; implementation, dissemination, and diffusion of innovations; and media communications. Part Five explores using theory and presents the key components and applications of overarching planning and process models, and integrated models and approaches to health behavior change. It includes chapters on theory-based planning models, behavioral economics (new with this edition), and social marketing.

The major emphasis of *Health Behavior: Theory, Research, and Practice* is on the analysis and application of health behavior theories to public health and health promotion practice. The introductory chapters for Parts Two, Three, and Four introduce the theories discussed in each section; summarize their potential application to the development of health behavior change interventions; and highlight strengths, weaknesses, gaps, and areas for future development and research, and promising strategies. 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 or model; reviews empirical support for it; and concludes with one or two applications.

Chapter authors are established researchers and practitioners who draw on their experience in state-of-the-art research to critically analyze and apply the theories to understanding health behavior and the practice of health behavior change. This text makes otherwise lofty theories accessible and practical, and advances understanding and practice 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 emerging theories were not included.

The first four editions of *Health Behavior and Health Education* grew out of the editors' own experiences, frustrations, and needs, as well as their desire to synthesize many 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 public health and 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.

Through the preceding four editions, *Health Behavior and Health Education* has become established as a widely used text and reference book. It is our sincere hope that the fifth 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. Ultimately, we aim to encourage users to use, test, refine, and even develop theories with the goal of improving health for people around the world and to benefit especially those populations that have suffered disproportionately from the conditions that predispose to poor 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 pay special tribute to Drs. Martin Fishbein and Noreen Clark, luminaries in our broad field, whose work in applied health behavior theory taught and inspired us, and whose bodies of work cut across several chapters in this book. Along with many colleagues, we were saddened by Marty's death in 2009 and Noreen's passing in 2013. Their work will continue to be influential in using theory to improve research, practice, and health.

We also wish to acknowledge authors who contributed to the first four 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.

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## ABOUT THE EDITORS

**Karen Glanz** is George A. Weiss University Professor, professor of epidemiology in the Perelman School of Medicine, professor of nursing in the School of Nursing, and director of the Prevention Research Center and the Center for Health Behavior Research at the University of Pennsylvania. She is a Senior Fellow of the Leonard Davis Institute of Health Economics and of the Center for Public Health Initiatives, a Distinguished Fellow of the Annenberg Public Policy Center, and a Fellow of the Penn Institute for Urban Research. She was previously at Emory University (2004–2009), the University of Hawai'i (1993–2004), and Temple University (1979–1993). She received her MPH degree (1977) and PhD degree (1977) in health behavior and health education from the University of Michigan School of Public Health and Rackham Graduate School, respectively.

A globally influential public health scholar whose work spans psychology, epidemiology, nutrition, and other disciplines, her research in community and health care settings focuses on obesity, nutrition, and the built environment; cancer prevention and control; chronic disease management and control; the reduction of health disparities; and health communication technologies. Her research and publications, ranging from the 1980 to the present, about understanding, measuring, and improving healthy food environments have been widely recognized and replicated. She is a member of the U.S. Community Preventive Services Task Force. Her scholarly contributions consist of more than 400 journal articles and book chapters.

Karen Glanz has a long history of leading community-based health research and programs, and currently serves in several related roles at the University of Pennsylvania. She is director of the Community Engagement and Research (CEAR) Core of the UPenn Clinical and Scientific Translational Award (CTSA); director of the Pro-CEED Community Engagement and Dissemination Core of the NIMHD-funded P60 Center to Reduce Health Disparities in Prostate Cancer; scientific director of the Recruitment, Outcomes and Assessment Resource (ROAR) Core of the Abramson Cancer Center; and director of research for the Center for Public Health Initiatives (CPHI).

Dr. Glanz has been recognized with local and national awards for her work, including being elected to membership in the Institute of Medicine of the National Academy of Sciences in 2013. She was named a Fellow of the Society for Behavioral Medicine and received the Elizabeth Fries Health Education Award. She was designated a Highly Cited Author by ISIHighlyCited.com, in the top 0.5% of authors in her field over a twenty-year period.



**Barbara K. Rimer** is dean and Alumni Distinguished Professor of Health Behavior and Health Education at the School of Public Health at the University of North Carolina at Chapel Hill. Dr. Rimer received an MPH degree (1973) from the University of Michigan, with joint majors in health education and medical care organization, and a DrPH degree (1981) in health education from the Johns Hopkins School of Hygiene and Public Health. Previously, she served as deputy director for population sciences at the Lineberger Comprehensive Cancer Center at UNC-Chapel Hill (2003–2005), director of the Division of Cancer Control and Population Sciences at the National Cancer Institute (part of the National Institutes of Health) (1997–2002), professor of community and family medicine at Duke University (1991–1997), and director of behavioral research and a full member at the Fox Chase Cancer Center in Philadelphia (1987–1991).

Dr. Rimer has conducted research in a number of areas, including informed decision making, long-term maintenance of behavior changes (in such areas as diet, cancer screening, and tobacco use), interventions to increase adherence to cancer prevention and early detection, dissemination of evidence-based interventions, and use of new technologies for information, support, and behavior change.

Dr. Rimer is the author of over 265 peer-reviewed articles, fifty-five book chapters, and six books and serves on several journal editorial boards. She is the recipient of numerous awards and honors; in 2013, she was awarded the American Cancer Society's Medal of Honor for her cancer research, which has guided national research, practice, and policy for more than twenty years.

Dr. Rimer was the first woman and behavioral scientist to lead the National Cancer Institute's National Cancer Advisory Board, a presidential appointment. Dr. Rimer was elected to the Institute of Medicine in 2008 and appointed by President Obama to chair the President's Cancer Panel in 2011, a position she still holds.

**K. "Vish" Viswanath** is professor of health communication in the Department of Social and Behavioral Sciences at the Harvard School of Public Health (HSPH) and in the McGraw/Patterson Center for Population Sciences at the Dana-Farber Cancer Institute.

Dr. Viswanath's work, drawing from literatures in communication science, social epidemiology, and social and health behavior sciences, focuses on translational communication science to influence public health policy and practice. His primary research is in documenting the relationships among communication inequalities, poverty and health disparities, and knowledge translation to address health disparities. He has written more than 170 journal articles and book chapters concerning communication inequalities and health disparities, knowledge translation, public health communication campaigns, e-health and the digital divide, public health preparedness, and the delivery of health communication interventions to underserved populations. He is the coeditor of three books: *Mass Media, Social Control, and Social Change* (Iowa State University Press, 1999), *The Role of Media in Promoting and Reducing Tobacco Use* (National Cancer Institute, 2008), and the present volume. He was also the editor of the Social and Behavioral Research section of the twelve-volume *International Encyclopedia of Communication* (Blackwell Publishing, 2008).

Dr. Viswanath has been recognized with several awards, including the Joseph W. Cullen Memorial Award for Excellence in Tobacco Research from the American Society of Preventive Oncology (2014), the Dale E. Brashers Distinguished Mentorship Award from the National Communication Association (2013), the Outstanding Health Communication Scholar Award from the International Communication Association and the National Communication Association (2010), and the Mayhew Derryberry Award from the American Public Health Association for his contribution to health education research and theory (2009). He has been elected Fellow of the International Communication Association (2011), the Society for Behavioral Medicine (2008), and the Midwest Association for Public Opinion Research (2006). He chaired the Board of Scientific Counselors for the National Center for Health Marketing at the Centers for Disease Control and Prevention (CDC), Atlanta, from 2007 to 2010 and has served on three Institute of Medicine committees. Currently, he is a member of the National Vaccine Advisory Committee (NVAC) of the U.S. Department of Health and Human Services and chairs NVAC's Working Group on Vaccine Acceptance, and a member of the Board of Scientific Counselors, Office of Public Health Preparedness and Response, CDC.



## ABOUT THE CONTRIBUTORS

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PART ONE

# HEALTH BEHAVIOR: THE FOUNDATIONS

