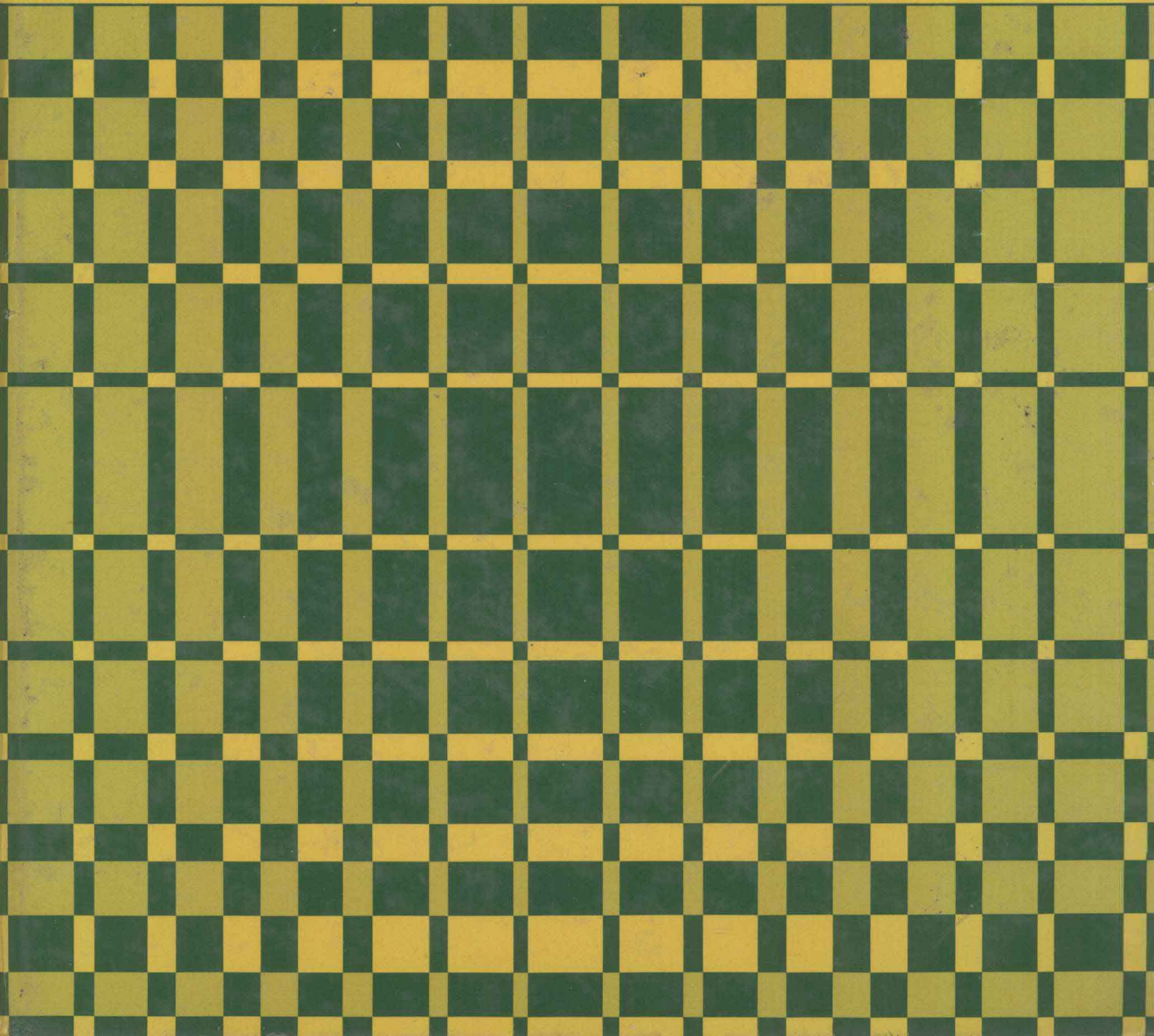


BERNARD L.  
BLOOM

# HEALTH PSYCHOLOGY

A PSYCHOSOCIAL PERSPECTIVE



# Health Psychology

A Psychosocial Perspective

---

**Bernard L. Bloom**

*University of Colorado*



PRENTICE HALL, Englewood Cliffs, New Jersey 07632

BLOOM, BERNARD L.

Health psychology.

Bibliography: p.

Includes indexes.

1. Clinical health psychology. 2. Medicine and psychology. 3. Social medicine. I. Title. [DNLM:

1. Attitude of Health. 2. Psychology, Social.

3. Psychophysiology Disorders. WM 90 B655h]

R726.7.B57 1988 362.1'042 87-25732

ISBN 0-13-384769-1

## ***Dedication***

To Joan, my gentlest critic, whose caring and love particularly during the past two years helped make this book possible, and whose thoughtful comments and suggestions helped make this book a far more interesting one to read.

Editorial/production supervision: Debbie Ford

Cover design: Ben Santora

Manufacturing buyer: Ray Keating



© 1988 by Prentice-Hall, Inc.

A Division of Simon & Schuster

Englewood Cliffs, New Jersey 07632

All rights reserved. No part of this book may be reproduced, in any form or by any means, without permission in writing from the publisher.

Printed in the United States of America

10 9 8 7 6 5 4 3 2 1

ISBN 0-13-384769-1 01

Prentice-Hall International (UK) Limited, *London*

Prentice-Hall of Australia Pty. Limited, *Sydney*

Prentice-Hall Canada Inc., *Toronto*

Prentice-Hall Hispanoamericana, S.A., *Mexico*

Prentice-Hall of India Private Limited, *New Delhi*

Prentice-Hall of Japan, Inc., *Tokyo*

Simon & Schuster Asia Pte. Ltd., *Singapore*

Editora Prentice-Hall do Brasil, Ltda., *Rio de Janeiro*

# Preface

As its subtitle suggests, this book looks at the newly developing field of health psychology from a psychosocial point of view. I have come to health psychology from the fields of clinical psychology and community mental health—which traditionally have examined human behavior from the psychosocial point of view—and I believe that the future will see a growing partnership of these three fields in considering issues of physical health and illness.

The research of the past two decades has made a compelling case that there is a biology of health, a psychology of health, and a sociology of health and that—whether we are thinking about treatment or about prevention of illness—these three domains must be studied in their natural interactions. Culture invades physiology, and we are seeing a dramatic trend toward an ecumenical view of health and illness. I am hopeful that this book will encourage readers to think about their own health and the health of others from this broader perspective, and that reading it will provide a sense of excitement about how psychological principles and methods can be used to improve our health and increase the effectiveness of our treatments when people become ill.

No field of psychology is more important in the development of public social policy than is health psychology. One of the great tragedies of our rich country is our failure to value the health of all of our citizens. Millions of Americans are without any form of health insurance and cannot afford adequate health care. Hundreds of thousands of elderly Americans must spend themselves into poverty in order to become eligible for an adequate level of medical care. Many countries, where less is spent per capita for health care than in the United States, have lower maternal mortality rates, lower death rates (particularly during the years of childhood), and longer life expectancies.

I hope this book will have an impact not only on what you know about the psychology of health and illness, but also on how you think about health and its importance in any society. There is far more material in the field of health psychology than can be covered in a single book, and I have provided supplementary references throughout to help you obtain additional information on topics that might be of special interest to you.

I want to express special thanks to Ruth Brown and to John and Jaye Zola, who read and commented on the first draft of this book, and to Professor Janet Lapp, California State University at Fresno; Professor Edward Krupat, Massachusetts College; and Professor Charles Kaiser, College of Charleston, whose careful and expert criticisms of the penultimate draft have earned my admiration and gratitude.

# Contents

Preface xii

## **PART ONE**

---

### **Conceptual and Factual Foundation**

#### **1**

The Conceptual History of Health Psychology 1

Introduction 1

The Methods of Science 2

Epidemiologic Methods in the Study of Disease Prevalence 3

The Field of Health Psychology 5

Behavioral Medicine 5

Medical Psychology 6

Health Care Psychology 6

Other Related Terms 7

Conceptual Approaches to Health and Illness Behavior	9
Miasma Theory	10
Germ Theory: The Biologizing of Medicine	11
The Biopsychological Approach to Health and Illness	12
Psychosomatic Disorders and Health Psychology	14
Interactions of Physical and Mental Health	15
The Concept of the Health Field	16
Two Views of Health: Status or Process	17
The Measurement of Health	18
An Overview of Human Anatomy and Physiology	20
The Cardiovascular System	20
The Respiratory System	22
The Digestive System	24
The Urinary System	26
The Endocrine System	28
The Reproductive System	30
The Nervous System	35
Concluding Comments	39
Organization of This Book	41
Summary	42

## 2

### Health and Illness in the United States 44

Introduction	44
Birth Rate, Mortality Rate, and Life Expectancy	45
Birth Rate	45
Mortality Rate	46
Life Expectancy	46
Measures of Morbidity	47
Physician Visits	48
Hospitalization	48
Injuries	49
Causes of Death	49

Self-Assessments of Health	50
Health Status of Children	51
Measures of Childhood Mortality	52
Infant Mortality	53
Childhood Mortality	53
Adolescent and Young Adult Mortality	54
Health and Family Income	55
Expenditures for Health Care	55
Health Care Personnel	58
Organization and Delivery of Health Services	58
A Brief History of Medical Care in the United States	59
The Health Maintenance Organization	65
The Preferred Provider Organization	68
The Comparative Analysis of Health Services	69
Concluding Comments	71
Summary	72

## **PART TWO**

---

# **Psychosocial Aspects of Health**

## **3**

Stress and Health	74
Introduction	74
Stress and Illness	75
Selye's General Adaptation Syndrome	76
The Physiology of Stress	76
Stress and the Immune System	77
Coping with Stress	78
The Study of Stressful Life Events	79
The Assessment of Stressful Life Events	81
Stressful Life Events and Illness	83
Consequences of Stressful Life Events	84
Moderating Factors	85

Health-related Stress in the Family	88
Threats to Health as Stressful Life Events	89
Caring for an Ill Family Member	90
Concluding Comments	95
Summary	96

## 4

### Consumer Health Education 98

Introduction	98
Definition and Goals of Consumer Health Education	99
Health Promotion	100
Examples of Health Education Programs	101
The General Population	101
At-Risk Groups	104
Patients in the Medical Care System	113
General Policy Makers	115
Health Promotion in the Workplace	121
Examples of Workplace Health Promotion Programs	122
Other Workplace Health Promotion Program Evaluations	124
Concluding Comments	124
Summary	126

## 5

### Lifestyle Risk Factors: Nutrition, Exercise, Alcohol, and Drug Abuse 129

Introduction	129
Nutrition and Health	130
Anorexia and Bulimia	132
Understanding Obesity	133
Prevention and Reduction of Obesity	136
Exercise and Health	140
Exercise and Mental Health	141
Exercise Programs in Action	141
Adherence to Exercise Programs	142



Alcohol Abuse and Health	143
Risk Factors in Alcoholism	144
Prevention of Alcoholism	146
Drug Abuse and Health	149
The Drug-use Career	150
Risk Factors in Drug Use	151
Prevention of Drug Abuse	151
Concluding Comments	153
Summary	153

## 6

Lifestyle Risk Factors: Smoking and Health	156
Introduction	156
Surveys of Tobacco Use	158
Establishing the Smoking-Lung Cancer Link	159
Control of Smoking: A Psychological Perspective	162
Psychological Smoking Models	162
Methodological Issues	163
Control of Smoking: A Social Perspective	165
Interpersonal Influences	166
Social Perspectives on Influencing Smoking Behavior	166
Control of Smoking: A Public Policy Perspective	168
Public Policy Strategies	170
Smoking Cessation and Smoking Prevention	171
Smoking Cessation	172
Smoking Prevention	176
Concluding Comments	177
Summary	179

## PART THREE

---

### Psychosocial Aspects of Illness

## 7

Becoming and Being Ill	181
Introduction	181

Health and Illness Behaviors	183
Preventive Health Behavior	183
Diagnosis-seeking Behavior	184
Treatment-seeking Behavior	184
Explaining Health-related Behavior	185
Seeking Health Care Services	186
The Medical Care System	187
Sociocultural Factors in Seeking Medical Care	188
Perceptual and Attitudinal Factors in Seeking Medical Care	190
Illness and the Medical Care System as Sources of Stress	192
Becoming a Patient	192
Reducing the Stresses of Medical Care	196
Psychological Assessment of Medical Patients	201
The Millon Behavioral Health Inventory	202
The Psychosocial Adjustment to Illness Scale	203
Concluding Comments	204
Summary	205

## 8

### Psychosocial Aspects of Specific Disorders: Introduction 208

Introduction	208
Historical and Theoretical Overview	209
Contemporary Psychosomatic Theory	212
An Overview of Psychological Intervention Approaches	214
Becoming Part of the Treatment Team	215
The Placebo Effect	215
Modifying How the Stimulus is Perceived	217
Contingency Management Techniques	223
Modifying Cognitive Mediating Processes	225
Summary	226

## 9

### Psychosocial Aspects of Chronic Pain 229

Introduction	229
Dimensions of Pain	230
Acute vs. Chronic Pain	230

Malignant vs. Benign Pain	231
Psychogenic vs. Biogenic Pain	231
Theories of Pain	233
Types of Chronic Pain	235
Phantom Limb Pain	235
Causalgia	236
Neuralgia	236
Posttraumatic Pain Syndromes	236
Chronic Low Back Pain	237
Sociocultural Aspects of Pain	239
Demographic and Personality Aspects of Pain	241
Measurement of Pain	241
Measurement of Pain in the Laboratory	242
Measurement of Clinical Pain	243
Psychosocial Approaches in Reducing Chronic Pain	246
Description of a Pain Control Program	250
Cost-effectiveness of a Pain Control Program	252
Summary	252

## 10

### Psychosocial Aspects of Cardiovascular Disease 255

Introduction	255
Personality and Heart Disease	257
The Type A Personality	259
Prevention of Heart Disease	265
Rehabilitation of the Coronary Disease Patient	271
Hypertension	274
Psychological Control of Hypertension	277
Summary	280

## 11

### Psychosocial Aspects of Cancer and Asthma 282

Introduction	282
Cancer	282
Psychosocial Risk Factors	283
Adjustment and Prognosis	288
Psychosocial Factors in Cancer Treatment	290

Asthma	298
Psychological Treatment of Asthma	300
Concluding Comments	302
Summary	306

---

## **PART FOUR**

---

# **Psychosocial Aspects of the Medical Care System**

## **12**

### **Adherence to Medical Treatment Programs 308**

Introduction	308
Measurement of Adherence	310
Clinical Outcome	311
Patient Self-report	311
Medication Measurement	311
Medication Monitors	312
Chemical Analysis	312
Prevalence of Adherence Failure	313
Adherence Failure in Hypertension	314
Treatment Characteristics and Adherence Rates	315
Demographic Factors and Adherence Rates	316
Psychosocial Factors and Adherence Rates	317
Patient Characteristics	317
Health Care Provider–Patient Interaction	319
Improving Adherence Rates	321
Patient Education	323
Treatment Program Modification	323
Direct Modification of Patient Behavior	324
Concluding Comments	327
Summary	329

## **13**

### **A Psychological Portrait of Health Care Providers 331**

Introduction	331
--------------	-----

The Process of Medical Education	332
Choosing a Medical Career	332
Medical Education in a Developmental Context	335
Sources of Stress among Medical Students	336
The Medical Internship and Residency	340
Stress among Practicing Physicians	345
The Process of Nursing Education	351
Sources of Stress among Nursing Students	354
Concluding Comments	355
Summary	356
 Glossary	359
 References	367
 Index	444

# The Conceptual History of Health Psychology

---

## 1

### INTRODUCTION

This chapter sets the stage for the study of health psychology by discussing five introductory topics. First, the field of health psychology is defined and is placed within the conceptual and methodological context of the larger fields of psychology and epidemiology. Second, the development of the current interest in health psychology is put in a historical context. We briefly explore three historically sequential orientations to the understanding of health and illness—miasma theory, germ theory, and biopsychosocial theory. Third, a number of important concepts related to health and illness are introduced and examined. Included among these concepts are (1) psychosomatic disorders, (2) the health field, and (3) health as a status versus health as a process. Fourth, basic issues that need to be considered in the measurement of health are identified. And finally, a brief overview of human anatomy and physiology is provided as a useful background for the remainder of the volume.

If we start with the commonly accepted definition of psychology as the scientific study of behavior (see, for example, Bourne & Ekstrand, 1985), then

we may consider the field of health psychology as the scientific study of health- and illness-related behavior. The concept of behavior is a broad one in this definition and includes thoughts, attitudes, and beliefs as well as observable actions. Thus, *the field of health psychology concerns itself with the scientific study of behavior, thoughts, attitudes, and beliefs related to health and illness.*

### **The Methods of Science**

In no specialized field of psychology is the word *scientific* more important than in the field of health psychology. The importance of good health and the avoidance of illness in our society can hardly be overemphasized. After all, when we discuss health and illness, we are talking about life and death. Accordingly, it is no surprise that we all search for ways to stay healthy, and that in that search we can easily follow remedies that have little or no demonstrated validity (see, for example, Cassileth, Lusk, Strouse, & Bodenheimer, 1984). Health-related matters have become front-page news, and the national wire services have recently begun the routine monitoring of such professional publications as the *Journal of the American Medical Association* and the *New England Journal of Medicine*.

There is hardly an area of human behavior that is more influenced by mythology, anecdote, and unverified claims than behavior related to health and illness. Thus, it is especially important in a health psychology textbook to describe that field from a scientifically defensible point of view.

Employing a scientific approach to the study of health-related behavior will ultimately permit (1) the measurement and description of behavior, (2) the explanation of behavior, (3) the prediction of behavior, and (4) the control and modification of behavior.

The scientific method has general principles for the definition of constructs and variables, for the development of theory and concepts, and for the evaluation of evidence. These principles provide rules for answering the two general questions implied in any process of inquiry: (1) What do you mean? and (2) How do you know? Answering the first question requires the development of measurement procedures that are reliable and valid. Answering the second requires the use of research methods that lead to trustworthy conclusions.

The rules that govern the use of the scientific method are important not only for establishing the validity of hypotheses but also for refuting them. Indeed, scientific discourse deals only with propositions that can be refuted, even if only theoretically. If we hold health-related beliefs or engage in health-related behaviors that we believe are irrefutable, that is, that we would retain regardless of any evidence to the contrary, we may have interesting and important conversations about them, but these conversations are not science. The scientific method, as a strategy for establishing knowledge, has, however, had enormous impact in certain domains of inquiry, certainly including the field of psychology, and this book will concern itself with the contributions of these methods to health- and illness-related behavior and thought processes.

**EVALUATING HEALTH-RELATED RESEARCH.** The foregoing comments about the methods of science are not to suggest, however, that the research that has been conducted in the field of health psychology is invariably methodologically sound. Indeed, reviews of research in the field of health psychology are critical of many of the studies that have been reported in the literature (see, for example, Bradley, 1983; Ziesat, 1981). As with other fields of inquiry in the social sciences, newer research is often sounder than older research (Miller, 1983). The importance of sound research methodology can be seen in a recent survey of twenty-two health psychologists, in which Taylor (1984) found that this group assigned top priority in the training of health psychologists, to the development of methodological expertise, both regarding research design and data analysis.

#### ***Epidemiologic Methods in the Study of Disease Prevalence***

Scientists who seek to determine what factors play a role in the distribution and determinants of any disease process are called *epidemiologists*. As a preface to the discussions of the links between psychosocial factors, on the one hand, and health and illness, on the other hand, it is important to provide a brief overview of how such connections are made by epidemiologists in the scientific literature.

Scientists are accustomed to taking two general approaches to the study of the relationship between some suspected casual agent and some disease or disorder. One approach is called *retrospective*, and such studies are often referred to as *case-control* studies. This approach consists of comparing a group of people with the disease under study with a matched control group of people without the disease, in terms of suspected factors in their history. In the case of smoking and lung cancer, for example, a retrospective study would obtain a sample of persons with lung cancer (the cases) and a matched sample of people without lung cancer, either a healthy group or a group of persons with some other disorder (the controls), and determine whether there is a significantly more frequent prior history of smoking in the group with lung cancer than in the group without the disease. Such retrospective studies are relatively inexpensive to carry out and a large number of past-history variables can be explored in a single study. Accordingly, retrospective studies are generally conducted first in the implementation of a research program attempting to identify causal factors in a disease.

The second approach is called *prospective*, and such studies are usually referred to as *cohort* studies. To continue using the example of smoking and lung cancer, in this type of study a group, or cohort, of smokers is identified along with a matched control group of nonsmokers. The two groups are followed for an appropriate period of time in order to determine what the risk of lung cancer is in both groups. Prospective cohort studies ordinarily take a good deal longer than retrospective case-control studies and thus are substantially more expensive to conduct. It is only from prospective studies, however, that the actual risk of



becoming ill can be calculated as a function of whether or not the suspected causal circumstance is present (MacMahon & Pugh, 1970). In a retrospective study, many potential causal factors can be evaluated in their relationship to one particular disorder. In a prospective study, many pathological consequences of one suspected causal factor can be evaluated.

In the case of the suspected relationship between smoking and lung cancer, about fifteen retrospective studies were reported before the first prospective study was undertaken (MacMahon & Pugh, 1970).

**CRITERIA FOR ESTABLISHING CAUSE.** One of the principal tasks of the field of epidemiology is to understand causative factors in illness. Accordingly, it is important to understand the criteria that are generally used by epidemiologists to establish a causative relationship. Six criteria are generally used, although it should be stressed at the outset that discovering one factor is implicated as the cause of some particular disease does not mean no other factor is involved.

The criteria typically used in epidemiological research for establishing cause (Koop and Luoto, 1982) include:

(1) *Consistency of the association.* This criterion requires that diverse methods of approach provide similar conclusions. The association must be observed repeatedly by multiple investigators, in different locations and situations, at different times, using different methods of study. The more consistently the finding is observed, the more confident one can be about its validity.

(2) *Strength of the association.* The most direct measure of the strength of the association of some psychosocial factor and the risk of some disease is the comparison of death or morbidity rates from the disease among persons with that psychosocial factor present and without that psychosocial factor present. The greater the difference in those rates, the more likely is it that the suspected causative factor is implicated.

(3) *Specificity of the association.* Specificity is judged by the extent to which the presence of a presumed causative factor is associated with one and only one disease. Although the demonstration of specificity makes a causal hypothesis more acceptable, lack of specificity does not mean that the suspected agent is causally unrelated to any of the disorders with which it is associated.

(4) *Temporal relationship of the association.* This criterion requires that exposure to the suspected causative factor must precede the disease. Prospective cohort studies appear to meet this criterion since, by design, they identify study samples in terms of the presence or absence of the presumed prior causative factor.

(5) *Coherence of the association.* This criterion for evaluating the causal significance of an association is based upon its degree of agreement with known facts in the natural history of the disease. Coherence requires, among other criteria, that descriptive epidemiologic results on disease occurrence correlate with measures of exposure to the suspected agent. Perhaps the most important consideration is the observation of a dose-response relationship between agent