

### **CONTENTS**

# PART I THE NATURE OF ENVIRONMENTALLY RELEVANT BEHAVIORAL SCIENCE 1

## CHAPTER 1 BEHAVIORAL SCIENCE AND ENVIRONMENTAL PROBLEMS 3

Physical versus Behavioral Technology 4
Environmentally Relevant Behaviors 5
A Framework for Examining Behavior 6
Summary 10

## CHAPTER 2 ENVIRONMENTALLY RELEVANT PSYCHOLOGY 11

Environmental Relevance: A Matter of Degree 11
A Taxonomy of Environmental Problems and Relevant Behaviors 15
Environmentally Relevant Psychology:
A Definition 18
Summary 20

#### PART II

AN APPLIED BEHAVIOR-ANALYTIC APPROACH TO ENVIRONMENTALLY RELEVANT BEHAVIORAL SCIENCE 23

#### CHAPTER 3 BASIC PRINCIPLES OF BEHAVIOR 25

Two Types of Behavior 25
Increasing Behavior 26
Decreasing Behavior 28
Stimulus Control 30
Timing the Stimulus Change 30

xiii



#### xiv CONTENTS

Scheduling the Stimulus Change 31
Schedules Based on Single Responses of More Than
One Person 33
Applying the Basic Principles 34
Summary 35

## CHAPTER 4 RESEARCH STRATEGIES AND DESIGNS IN THE DEVELOPMENT OF BEHAVIORAL SOLUTIONS 36

The Correlational/Descriptive Strategy 38
Experimental/Manipulative Strategies 41
Measuring the Dependent Variable 50
Summary 50

## PART III SOLVING PROBLEMS OF ENVIRONMENTAL AESTHETICS

## CHAPTER 5 ENVIRONMENTAL AESTHETICS: LITTER AND ENVIRONMENTAL DESIGN 55

Litter 55
Designing Environments to Minimize Litter and
Perpetuate Their Own Attractiveness 7
Summary 80
Suggested Projects 81

#### CHAPTER 6 NOISE AND ITS CONTROL 85

Sound and Its Measurement 86
The Definition of Noise 88
The Effects of Noise 90
The Control of Noise 92
Summary 103
Suggested Project 103

## PART IV SOLVING HEALTH-RELATED AND RESOURCE-RELATED ENVIRONMENTAL PROBLEMS 105

#### CHAPTER 7 POPULATION CONTROL 107

The Ethics of Population Control 108
Views on Population Control 110
Research Issues 114
Family-Planning Programs 116

53



CONTENTS xv

Summary 125 Suggested Project 125

#### CHAPTER 8 RECYCLING 127

The Problem of Waste: Why Recycle? 127
The Factors Inhibiting Recycling 130
Methods of Waste Reduction and Resource
Recovery 133
Summary 148
Suggested Project 148

#### CHAPTER 9 TRANSPORTATION 149

The Energy Used in Transportation 149
Altering the Use of Mass-Transit Systems 150
Altering the Use of Automobiles 156
Reducing Fuel Usage in Fleet-Operated Trucks 161
Issues in Altering Transportation Behavior 162
Summary 167
Suggested Projects 168

#### CHAPTER 10 RESIDENTIAL ENERGY CONSERVATION 173

Altering Overall Energy Consumption in Individual Residences 175 Altering Specific Energy-Related Behaviors 193 Reducing Energy Consumed in Master-Metered Housing 195 Summary 197 Suggested Project 198

#### CHAPTER 11 RESIDENTIAL WATER CONSERVATION 199

Major Uses of Water in the Home 201
Water-Saving Devices 201
Deterrents to Residential Water Conservation 206
What Can Behavior Analysts Do about Water
Conservation? 210
Summary 213
Suggested Projects 214

## PART V PROMOTING THE USE OF BEHAVIORAL APPROACHES TO ENVIRONMENTAL PROBLEMS 219



xvi CONTENTS

## CHAPTER 12 THE GENERALITY OF BEHAVIORAL SOLUTIONS 221

Types of Generality 222 Evidence for the Generality of Behavioral Solutions 222 Tactical Considerations in Behavioral Solutions 228 Contributions of Reactive Research to **Behavioral Solutions** 229 Prevention of the Development of Environmentally **Destructive Behavioral Repertoires** An Eco-Systems Perspective Summary 232

## CHAPTER 13 PROMOTING BEHAVIORAL-SCIENCE IMPACT THROUGH EXPERIMENTAL SOCIAL REFORM 234

Systems-Level Contingencies 234
How Can We Influence Systems? 237
Behavioral Experimentation: How, What, and Why? 238
What Does the Behavioral Scientist Need? 240
Issues in the Pursuit of Behavioral Solutions 241
The Future of Environmentally Relevant Psychology 243

Glossary 244
References 250
Author Index 267
Subject Index 273