

Contents

Chapter 1

Why Are People Different?

1

Individual and Group Differences 4

Thinking about Heredity 6

Thinking about Environment 6

The Challenge 8

Chapter 2

How Do Genes Influence Behavior?

11

DNA 12

Translation 14

Transmission 17

Genetic Influence and Behavior 20

Resources 25

Chapter 3

How Can Genetic Influence on Behavior Be Detected?

27

Quantitative Genetic Theory 28

Behavioral Genetic Methods Used in Animal Studies 36

Human Behavioral Genetic Methods	38
<i>Family Designs</i>	38
<i>Adoption Designs</i>	41
<i>The Twin Method</i>	47
<i>Refinements of the Adoption and Twin Designs</i>	49
<i>Multivariate Analysis</i>	57
<i>Combinations of Methods</i>	58
<i>Model Fitting</i>	59
Summary	64
Resources	66

Chapter 4

How Much Does Heredity Affect Behavior?

67

Cognitive Abilities	68
IQ	68
<i>Specific Cognitive Abilities</i>	76
<i>School Achievement</i>	79
<i>Creativity</i>	80
<i>Reading Disability</i>	81
<i>Mental Retardation</i>	83
<i>Dementias</i>	89
Personality	90
<i>Extraversion and Neuroticism</i>	91
EAS Traits	93
<i>Other Personality Traits</i>	94
<i>Attitudes and Beliefs</i>	96
<i>Vocational Interests</i>	98
<i>Observational Data</i>	98
Psychopathology	99
<i>Schizophrenia</i>	100
<i>Affective Disorders</i>	103
<i>High Risk Studies</i>	106
<i>Other Psychopathology</i>	107
<i>Delinquency and Crime</i>	108
Alcoholism	110
Summary	111
Resources	112

Chapter 5

How Are Nurture and Nature Important?

115

The Importance of Environment	116
Nonshared and Shared Environmental Influence	118
<i>Evidence for the Importance of Nonshared Environment</i>	120
<i>What Are Nonshared Environmental Influences?</i>	123
The Nature of Nurture	129
<i>Genetic Influence on Environmental Measures</i>	130
<i>Genetic Influence on Environment-Development Associations</i>	135
Summary	141
The Future of Behavioral Genetics	142
Resources	144
References	145

Index **153**