

CONTENTS

<i>Foreword</i>	xiii
<i>Preface</i>	xvii
<i>Acknowledgments</i>	xxi
1 Psychophysiology in the context of media processes and effects research	1
A brief history of media effects research	2
<i>Early research—the impact of film content</i>	2
<i>Behaviorism's strong influence</i>	4
<i>Early behaviorist communication research</i>	6
<i>Opening the black box—the information processing approach</i>	10
<i>The second debut of physiology in media research</i>	15
<i>The third time's a charm: psychophysiological approaches to media</i>	18
2 Psychophysiology: theoretical assumptions and a history of the field	23
Basic assumptions of psychophysiology	23
1. <i>The brain is embodied</i>	24
2. <i>The work of the brain & the body happens over time</i>	24
3. <i>The subtractive method applies to analyzing physiological systems</i>	24
4. <i>The body's primary job is to keep itself alive</i>	26
5. <i>Cognitive processes can be inferred from bodily reactions</i>	31
6. <i>Psychophysiological measures are monstrosities</i>	34

Psychophysiology: a field with a long legacy	35
Benefits and drawbacks of psychophysiology	41
3 Key terms and concepts in psychophysiology	46
Tracing the basics of the signal chain from body to computer	46
<i>Electrodes and leads</i>	47
<i>Photoplethysmographs</i>	52
<i>Electrode cables and bioamplifiers</i>	54
<i>Filtering</i>	54
<i>AD/DA boards</i>	56
Psychophysiological signal vocabulary	58
<i>Tonic and phasic responses</i>	58
<i>Change scores</i>	59
<i>Habituation and sensitization</i>	60
Summary	62
4 Psychophysiological measures of cognitive processing of media	63
Conceptualizing cognitive processing of mediated content	68
<i>The limited capacity model of motivated, mediated, message processing</i>	70
Cardiac activity: a physiological measure of cognitive processing	73
<i>Psychological meaning of heart rate</i>	74
<i>Basic anatomy and physiology of the cardiac system</i>	76
<i>Recording the ECG in the media research lab</i>	81
<i>Equipment and technical procedures for recording the ECG</i>	82
<i>Analysis of cardiac activity data</i>	87
<i>Examples of research using heart rate to study cognitive processing of media</i>	91
EEG: a measure of cortical activity underlying cognitive processing of media	92
<i>Psychological meaning of EEG</i>	94
<i>Recording the EEG signal</i>	96

Examples of research using EEG to study cognitive processing of media 98

Summary 100

5 Psychophysiological measures of emotional processing of media 101

The nature of human emotion 103

Mind/body interaction in emotion 106

Arousal and valence as superordinate dimensions of emotion 109

Skin conductance: an electrodermal measure of arousal 110

Psychological meaning of skin conductance 111

Measuring skin conductance in the media research lab 114

Skin conductance recording equipment and supplies 115

Skin conductance electrode placement 118

Analysis of skin conductance data 120

Examples of the use of skin conductance in media research 123

Facial EMG: a measure of emotional valence 124

Psychological meaning of facial EMG 125

Specific facial muscle activation as an index of emotional valence 128

Recording the facial EMG signal 130

Electrode placement for recording facial EMG 131

Analysis of facial EMG data 136

Review of recent facial EMG research on emotional processing of media 138

Summary 139

6 Emerging psychophysiological measures for media research 140

The eye-blink startle response 140

Conceptual understanding of startle 141

Measuring eye-blink startle 144

Recent startle research in media psychology 149

The post-auricular startle response	150
Another facial EMG measure: Levator labii	151
Heart rate variability (HRV)	153
Functional magnetic resonance imaging (fMRI)	156
Summary	159
7 Connecting psychophysiology to other measures of mediated message processing	160
Gaining a proper perspective on data obtained from multiple forms of measurement	161
Understanding relationships between psychophysiological and other measures of processing	167
Combining self-report and psychophysiological measures of mediated message processing	171
<i>Self-report measures as indices conceptually related to embodied mental processes</i>	173
<i>Self-report measures as moderating or emerging from embodied mental processes</i>	177
<i>Self-report measures of individual differences impacting embodied mental processes</i>	179
Continuous Response Measurement: a dynamic alternative for measuring psychological states	183
Thought listing: capturing the qualitative experience of mediated message processing	187
Secondary task reaction time: a behavioral measure of cognitive resources	190
Measures of memory: performance indicators of mediated message processing	193
Summary	195
8 On your own: setting up a media psychophysiology lab and conducting experiments	196
Finding the space	197
Furnishing the space	201
Purchasing and understanding your lab equipment	202
Passing on your understanding: lab training	210
Designing experiments	213
Conducting experiments	216
Summary	218
Appendix—sample table of contents for lab manual	219

9 Psychophysiological measures and meaning: implications of current research and a peek at the future	222
Violent media, violent minds? Insights from psychophysiological measures	224
News and the curious mind: knowledge gained through psychophysiological measurement	228
Persuasion and psychophysiological measures of mediated message processing	232
The future of psychophysiology in studying mediated message processing	237
Conclusion	240
<i>Glossary</i>	242
<i>Bibliography</i>	258
<i>Index</i>	282