CONTENTS

Contributors			xiii
Introduction to Psychological E	xperiments on the	Internet	xv

SECTION I GENERAL ISSUES

CHAPTER 1 Decision Making in the Lab and on the Web

Michael H. Birnbaum

Introduction	3
Transitivity, Monotonicity, and Coalescing	5
Stochastic Dominance	6
Experimental Procedures	7
Advantages of Longer Experiments	8
Why Study Decision Making on the Internet?	11
Internet and Lab Studies	12
Stimuli	12
Recruitment of Lab and Internet Samples	13
Demographic Characteristics of the Samples	14
Results	14
Comparison of Choice Percentages	14
Monotonicity	16
Stochastic Dominance and Event Splitting	17
Demographic Correlations in the Internet Samples	18
Allais Paradoxes in Internet B	20
Comparison of CPT and Configural Weight Models	22
Discussion	25
Appendix: Additional Details of Experiment	28
References	33

CHAPTER 2 Validity of Web-Based Psychological Research

John H. Krantz and Reeshad Dalal

Validity of Web-Based Psychological Research	
The Validity of Research on the World Wide Web	38
Surveys	38
Correlational Designs	40
Experimental Designs	42
Trends in Subject Populations	48
Gender	51
Ethnicity	52
Country of Origin	53
Age	54
Language Experience	54
Summary of Subject Characteristics	54
Subject Recruitment	55
Conclusions	56
References	57

CHAPTER 3 A Brief History of Web Experimenting

Jochen Musch and Ulf-Dietrich Reips

The History of Web Experiments	61
Method	67
Procedure	69
Results	70
References	85

CHAPTER 4

The Web Experiment Method: Advantages, Disadvantages, and Solutions

Ulf-Dietrich Reips

Introduction	89
Moist Beams and Mildew Stains Rotting in Indifference	
(and How Web Experiments Might Be Used for	
Structural Support)	92

Generalizability (Demographic)	92
Generalizability (Situation) and External Validity	94
Generalizability (Time)	95
Volunteer Bias	96
Statistical Power	97
Detectability of Motivational Confounding	98
Experimenter Effects and Demand Characteristics	99
Other Advantages of Web Experimenting	101
Costs	101
General Advantages for the Research Process	102
Other Procedural Advantages	103
Ethical Issues	103
Disadvantages and Solutions	104
Control Issues (Cheating)	104
Control Issues (Experimental Control)	107
Self-Selection	108
Drop-out	108
Technical Variance	111
Interaction with Participants	111
Comparative Basis	112
Limits (Epilogue on External Validity)	112
Summary	112
References	114

SECTION II INDIVIDUAL DIFFERENCES AND CROSS-CULTURAL STUDIES

CHAPTER 5 Potential of the Internet for Personality Research

Tom Buchanan

Potential of the Internet for Personality Research	121
Why Do Personality Research on the Internet?	121
Potential Strengths of Internet-Mediated Research	123
Potential Problems for Internet-Mediated Research	124
Goals of Research Program	126

Empirical Work

Experiment 1 (Buchanan & Smith, 1999)

128

128

	Experiment 2 (Buchanan & Smith, in press)	129
	Experiment 3 (Buchanan & Smith, in press)	130
	Experiment 4 (Buchanan, 1998)	130
	General Findings across All Studies	131
Dis	scussion	134
	Comments on Criterion Group Approach	134
	Sample "Contamination"	135
	Participants, Not Subjects	136
	People's Reactions to Recruitment Strategies	
	and Possible Alternatives	136
	Conclusions	137
Re	ferences	138
	CHAPTER 6	
	Human Sexual Behavior:	
	A Comparison of College and Internet Surveys	
	Robert D. Bailey, Winona E. Foote, and Barbara Throckmorton	
Pre	evious Studies of Human Sexuality	141
	e Internet Environment	142
Int	ernet Data Collection	143
	e Current Study	145
	thod	145
	Participants	145
	Materials	146
	Procedure	150
Res	sults	150
	Demographic Characteristics	151
	Behaviors	156
	Attitudes	158
	Premarital Intercourse	158
	Extramarital Intercourse	159
Dis	cussion	160
	Demographic Differences	160
	Computed Scale Differences	163
	Behaviors	164
	Attitudes	165
Co	nclusions	166
Ref	ferences	167

CHAPTER 7

An Intercultural Examination of Facial Features Communicating Surprise

Donatella Pagani and Luigi Lombardi

troduction	169
he Facial Expressions of the Emotion of Surprise	170
nline Experiment: "How Surprised Is He?"	173
lethod	174
Subjects	174
Stimuli	176
Procedures	176
Main Analyses and Planned Comparisons	
(Structural, Demographic, and Intercultural Aspe	cts) 178
Main Analysis of Hardware and Software Effects	
(Validity Aspect a)	183
Main Analyses of Video Games and Comics Effects	
(Validity Aspect b)	184
Comparisons between the Results of WWW Sampl	e
and Laboratory Sample (Validity Aspect c)	187
iscussion	189
Demographic and Intercultural Aspects	189
Validity Aspects	190
ppendix	191
eferences	192

CHAPTER 8

What Are Computing Experiences Good For?: A Case Study in Online Research

John H. Mueller, D. Michele Jacobsen, and Ralf Schwarzer

Personal Growth as Value	196
Approaching the Question	199
Getting Started	200
Ethical Considerations	201
Method	202
Sample Characteristics	204
Replicated Results	206

Newer Results Efficacy Test Anxiety Computer Use Conclusions References	207 207 208 209 212 215
SECTION III COMPLITED TECHNIQUES FOR	
COMPUTER TECHNIQUES FOR INTERNET EXPERIMENTATION	
CHAPTER 9 PsychExps: An Online Psychology Laboratory Kenneth O. McGraw, Mark D. Tew, and John E. Williams	
PsychExps: An Online Psychology Laboratory	219
Rationale	219
The Technology	222
The Authoring Tool	222
How to Generate Experiments How to Deliver the Experiment on the Web	226 227
Does Web Delivery Affect Data Quality?	228
To Trust or Not to Trust	229
Data Transfer	230
Future Plans for PsychExps	230
Becoming Involved with PsychExps	232
Summary	233
References	233
CHAPTER 10	
Techniques for Creating and Using	
Web Questionnaires in Research and Teaching	
Jonathan Baron and Michael Siepmann	
Introduction	235
Do People Give Different Responses on Web and	233
Paper Questionnaires?	237

Using Web Questionnaires in Teaching	239
Making Web Questionnaires	239
Making Web Questionnaires Using HTML	241
Simple Questionnaires	241
Separate Display Areas: Frames	244
Putting Answer Columns Side by Side	246
Having Subjects Allocate Themselves	
to Different Versions	247
Making Web Questionnaires Using JavaScript and HTML	247
Transparently Allocating Different Subjects	
to Different Versions	247
Randomizing Question Order Separately for Each Subject	248
Error Checking	254
Removing Unwanted Character Codes from	
Text Responses	256
Process Tracing, Analog Scales, and Timing	257
Making Web Questionnaires Using Java, JavaScript, and HTML	259
Getting Data from Web Questionnaires into Usable Form	260
Administrative Aspects of Using Web Questionnaires	261
Informed Consent	261
Paying Subjects	262
Conclusions	264
References	265
CHAPTER 11	
The Cognitive Psychology Online Laboratory	
Gregory Francis, Ian Neath, and Aimee Surprenant	
The Cognitive Psychology Online Laboratory	267
Laboratory Development	272
Brown-Peterson Memory Task	272
Partial Report	275
Other Demonstrations	277
Web Server	279
Caveats	280
Summary	282
References	282

CHAPTER 12 The Server Side of Psychology Web Experiments

William C. Schmidt

The Client-Server Relationship	285
Appropriateness of Server-Side Solutions	292
Control over Information Delivery	293
Server-Side Preprocessing	294
Browser Compatibility Issues	296
Testing and Feedback	297
Control over Data Integrity	298
Data Security Issues	299
Password Protection	300
Participant Source Identification	301
Domain Restriction	302
Experiment Completion Rates	304
Time for Completion	304
Error Checking	305
Multiple Submission Filtering	305
Miscellaneous Issues	306
Finishing an Experiment Started Previously	307
Server-Side Performance Issues	308
Programming for Speed and Stability	308
Conclusion	309
References	310
Glossary of Web Terms	311
Index	315