

Contents

Part I Theory

1	Introduction	3
1.1	Scope	5
1.2	Motivation	7
2	State of the Art	9
2.1	Introduction to Psychological Reactance	10
2.2	State Reactance	10
2.2.1	Consequences of State Reactance	11
2.2.1.1	Indicators of State Reactance	11
2.2.2	The Intertwined Process Cognitive-affective Model	12
2.2.3	Moderators of State Reactance	15
2.2.3.1	Other Moderators	17
2.2.4	State Reactance Assessment	18
2.3	Trait Reactance	20
2.3.1	Measurement	21
2.3.1.1	Awareness of Consequences Scale	21
2.3.1.2	Therapeutic Reactance Scale	21
2.3.1.3	Fragebogen zur Messung der Psychologischen Reaktanz	21
2.3.1.4	Hong's Psychological Reactance Scale	22
2.3.2	Correlation with State Reactance	23
2.4	Intermediate Discussion on Reactance Assessment	25
2.4.1	State Reactance Measurement	25
2.4.2	Trait Reactance Assessment	27
2.5	Conclusion on Reactance Assessment	28

Part II Relevance of Psychological Reactance in Human-Computer Interaction

3	Is Psychological Reactance Relevant for Human-Computer Interaction? If Yes, in Which Context?	33
3.1	Research Question	33
3.2	Methods	34
4	Literature Search - Reactance in Literature	35
4.1	Introduction	35
4.2	Results	36
4.2.1	Research Question 1	36
4.2.2	Research Question 1.1	37
4.2.3	Research Question 1.2	40
5	Expert Survey - Triggers for State Reactance	43
5.1	Introduction	43
5.2	Methods	44
5.2.1	Participants	44
5.2.2	Procedure	44
5.3	Results	44
5.3.1	Research Question 1.1	45
5.3.2	Reduced Freedom of Choice	47
5.3.3	High Effort or Costs	47
5.3.4	System Errors	47
5.3.5	Privacy Violations and Use of Personal Data	48
5.3.6	Scarceness	48
5.3.7	Research Question 1.2	48
6	Smart Home Study - Trait Reactance	49
6.1	Introduction	49
6.2	Methods	51
6.2.1	Participants	52
6.2.2	Procedure	52
6.3	Results	54
7	Intermediate Discussion on the Relevance of Psychological Reactance for Human-Computer Interaction	59
7.1	Introduction	59
7.2	Research Question 1	59
7.3	Research Question 1.1	61
7.4	Research Question 1.2	64
7.4.1	Smart Home Study: Acceptability	65
7.5	Methodological Criticism	65
7.5.1	Completeness	65
7.5.2	Trait Reactance	66

Part III Measurement of State Reactance

8	Reactance Scale for Human-Computer Interaction	69
8.1	Introduction	69
8.2	Research Question: How can State Reactance be Measured?	70
8.1	Item Generation	71
8.2	Item Selection - Smart Home Online Study	72
8.2.1	Participants	72
8.2.2	Stimuli	73
8.2.3	Procedure	74
8.3	Analysis	74
8.3.1	Item Selection	75
8.3.2	Structural Equation Modelling	76
9	Validation and Intermediate Discussion	81
9.1	Introduction	81
9.2	Smart Home Online Study Results	82
9.3	Validation Study: Intelligent Personal Assistant Study	83
9.3.1	Participants	83
9.3.1.1	Procedure	83
9.3.1.2	Results	84
9.4	Intermediate Discussion on the Reactance Scale for Human-Computer Interaction	85
9.1	Methodological Considerations	85
9.2	Validation	87

Part IV Determinants of State Reactance

10	Smart TV Study - System Errors	91
10.1	Research Question: What Factors Influence State Reactance?	91
10.1	Introduction	92
10.2	Participants	94
10.3	Methods	94
10.3.1	Feedback Types	95
10.3.2	Conditions	95
10.3.3	Introduction of Errors	97
10.3.4	Experimental Procedure	98
10.4	Results	99
11	Persuasive Assistant Study - Moderator Variables	103
11.1	Introduction	103
11.2	Participants	105
11.3	Methods	105
11.3.1	Robotic Head	105
11.3.2	Amazon Alexa Skill	106
11.3.3	Procedure	107

11.3.3.1	Operationalization	108
11.4	Results	109
11.4.1	Attractiveness Prediction	109
11.4.2	Moderation Analysis	110
12	Intermediate Discussion on Determinants of State Reactance	115
12.1	Smart TV Study	115
12.1.1	Hypothesis 4	115
12.1.2	Hypothesis 5	116
12.1.3	Hypothesis 6	116
12.1.4	Study Remarks and Weaknesses	116
12.2	Persuasive Assistant Study	117
12.2.1	Hypothesis 7	117
12.2.2	Hypothesis 8	118
12.2.3	Study Remarks and Weaknesses	119
 Part V General Discussion		
13	Research Outcomes	123
13.1	Research Question 1	123
13.1.1	Research Question 1.1	123
13.1.2	Research Question 1.2	124
13.2	Research Question 2	124
13.3	Research Question 3	124
13.3.1	Research Question 3.1	125
13.3.2	Research Question 3.2	125
13.4	Methodological Considerations	125
14	Conclusion and Future Research	127
14.1	Conclusion	127
14.2	Outlook and Future Research	129
 References		
132		
 Appendix A: Questionnaires		
141		
 Appendix B: Stimuli		
145		
 Appendix C: Other		
147		