

VU Research Portal

Capacity and Control of Multiple-Target Search

Ort, E.

2020

document version

Publisher's PDF, also known as Version of record

[Link to publication in VU Research Portal](#)

citation for published version (APA)

Ort, E. (2020). *Capacity and Control of Multiple-Target Search*.

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal ?

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

E-mail address:

vuresearchportal.ub@vu.nl

Contents

1	Introduction: Top-down Biases in Multiple-Target Search	1
1.1	Introduction	2
1.2	Principles of Visual Search.	4
1.3	Control Mechanisms of Establishing a Top-Down Bias	9
1.4	Bridging Contradictory Hypotheses	12
1.5	Preview of Key Findings for Each Chapter	22
2	Lack of Free Choice Reveals the Cost of Having to Look for More Than One Object	25
2.1	Introduction	27
2.2	Experiment 1	29
2.3	Experiment 2	35
2.4	Experiment 3	39
2.5	General Discussion.	42
2.6	Declaration of Conflicting Interests	44
2.7	Funding	44
2.8	Open Practices	44
3	Lack of Free Choice Reveals the Cost of Having to Look for More Than One Object Within and Across Feature Dimensions	45
3.1	Introduction	47
3.2	Method	50
3.3	Results.	55
3.4	Discussion	62
3.5	Conclusion	68
3.6	Open Access	68

4	Frontal Cortex Differentiates Between Free and Imposed Target Selection in Multiple-Target Search	69
4.1	Introduction	71
4.2	Method	74
4.3	Results	85
4.4	Discussion	94
4.5	Conclusion	100
4.6	Conflicts of interest	102
4.7	Acknowledgements.	102
5	Humans can efficiently look for but not select multiple visual objects	103
5.1	Introduction	105
5.2	Results	108
5.3	Discussion	116
5.4	Conflict of Interest.	121
5.5	Acknowledgments	121
5.6	Materials and Methods	121
6	General Discussion	131
6.1	Summary of Findings	132
6.2	Shortcomings and Limitations	137
6.3	Future Directions	139
6.4	Concluding Remarks.	141
A	Appendix	143
A.1	Appendix 1 - Chapter 2	144
A.2	Appendix 2 - Chapter 3	146
A.3	Appendix 3 - Chapter 4	149
A.4	Appendix 4 - Chapter 5	160
	Summary	165
	Deutsche Zusammenfassung	171
	References	177

List of Publications

205

Acknowledgements

207

