

# Contents

<b>1</b>	<b>General introduction .....</b>	<b>7</b>
1.1	Anticipatory action control.....	7
1.1.1	Effect anticipations.....	8
1.1.2	Start anticipations .....	11
1.1.3	Action perception .....	16
1.2	The cognitive architecture of complex movements .....	18
1.2.1	Sensorimotor control and representation (levels I and II) .....	19
1.2.2	Mental representation and mental control (levels III and IV) .....	19
1.2.3	The structure of mental representations .....	20
1.3	Open issues.....	21
1.4	Research questions and structure of the thesis .....	22
1.5	References .....	25
<b>2</b>	<b>Motor expertise modulates the unconscious processing of human body postures .....</b>	<b>31</b>
2.1	Introduction .....	32
2.2	Experiment 1.....	35
2.2.1	Methods and materials.....	35
2.2.2	Results .....	38
2.3	Discussion .....	40
2.4	References .....	43
<b>3</b>	<b>Priming of future states in complex motor skills .....</b>	<b>45</b>
3.1	Introduction .....	46
3.2	Experiment 2.....	48
3.2.1	Methods and materials.....	49
3.2.2	Results and discussion .....	50
3.3	Experiment 3.....	53
3.3.1	Methods and materials.....	54
3.3.2	Results and discussion .....	54
3.4	General discussion .....	57
3.5	References .....	59

- 4 Athletes and novices are differently capable to recognize feint and non-feint actions..... 61**
- 4.1 Introduction ..... 62
- 4.2 Experiment 4..... 64
  - 4.2.1 Methods and materials..... 66
  - 4.2.2 Results ..... 68
  - 4.2.3 Discussion..... 70
- 4.3 Experiment 5..... 71
  - 4.3.1 Methods and materials..... 71
  - 4.3.2 Results ..... 73
  - 4.3.3 Discussion..... 74
- 4.4 General discussion ..... 75
- 4.5 References ..... 77
- 5 How an athlete reads unconscious stimuli: Masked priming of complex movements ..... 79**
- 5.1 Introduction ..... 80
- 5.2 Experiment 6..... 82
  - 5.2.1 Methods and materials..... 83
  - 5.2.2 Results ..... 85
  - 5.2.3 Discussion..... 88
- 5.3 Experiment 7..... 88
  - 5.3.1 Methods and materials..... 89
  - 5.3.2 Results ..... 90
  - 5.3.3 Discussion..... 94
- 5.4 General discussion ..... 96
- 5.5 References ..... 98
- 6 General discussion..... 101**
- 6.1 General discussion ..... 101
  - 6.1.1 High jump studies ..... 101
  - 6.1.2 Studies on feint actions..... 106
- 6.2 Conclusion ..... 110
- 6.3 Outlook ..... 111
- 6.4 References ..... 112
- 7 Summary ..... 115**
- 8 The Author..... 119**