Contents

Outline of this thesis 7

Chapter 1. General introduction 9

Chapter 2. Handle height and expectation of cart movement affect the control of trunk motion at movement onset in cart pushing 25

Chapter 3. Control of trunk motion following sudden stop perturbations during cart pushing 47

Chapter 4. Oblique abdominal muscle activity in response to external perturbations when pushing a cart 65

Chapter 5. Trunk muscle control in response to (un)expected turns in cart pushing 85

Chapter 6. Epilogue 101

Reference 115

Summary/ Samenvatting/ 摘要 129/135/141

Acknowledgements 145

Curriculum Vitae 151