CONTENTS

PART I INTRODUCTION AND STUDY PROTOCOL
Chapter 1 General introduction 7
Chapter 2 Genetics of physical activity & exercise behavior: Review and meta-analysis 17
Chapter 3 Data collection 35

PART II HERITABILITY OF DETERMINANTS OF EXERCISE BEHAVIOR
Chapter 4 Heritability of the affective response to exercise and its correlation to exercise behavior 57
Chapter 5 Differences in adolescent physical fitness: a multivariate approach and meta-analysis 81
Chapter 6 A twin/sibling study and meta-analysis on the heritability of maximal oxygen consumption 103

PART III BUILDING A MODEL
Chapter 7 Genetic modification of the effects of exercise behavior on mental health 129
Chapter 8 A twin study on the heritable components of voluntary exercise behavior in adolescents 135
Chapter 9 Summary & synthesis 165

References 181
Dutch summary 205
Appendices 211
About the author 231
Acknowledgements 233