Table 7.1 Overview of the thesis aims and corresponding key findings

Aim	Key findings
1st aim Quantify the effects of MPH on academic performance assessed in terms of both productivity and accuracy while distinguishing between core academic subjects (math, reading and spelling)	• MPH has small to medium sized positive effects on math accuracy and math productivity (Chapters 2, 3 and 6) and reading speed (Chapter 2) • MPH has no effect on reading accuracy and spelling (Chapters 2 and 3) • **Overall academic effects of MPH are small compared to behavioral effects and limited to math** (Chapters 2 and 3)
2nd aim Unravel the mechanism behind MPH-effects on academic performance, thereby distinguishing between academic productivity and academic accuracy for math, reading and spelling	• Children with ADHD have cognitive impairments (visuospatial working memory and lapses of attention), and are less intrinsically motivated for math (Chapter 4) • MPH has large effects on ADHD symptoms (Chapter 3) • There are no effects of MPH on cognition and motivation (Chapter 4) • The only evidence for mediating variables influencing MPH-effects on academic performance relates to improvements in ADHD symptoms (parent-rated) and improvements in parent reports of their child's perceived competence. These effects are specific for MPH effect on math productivity (Chapters 3 and 4). • Evidence for moderating variables affecting MPH effects on academic performance is limited to math ability: Children with below-average math performance profit more from MPH treatment than children with above-average math performance (Chapter 3).
3rd aim Quantify the effects of MPH on feedback learning in children with ADHD and the interaction between MPH and reward on math performance in children with ADHD	• Children with ADHD show intact acquisition of stimulus-reward associations and reversal learning compared to TD controls (Chapter 5) • Children with ADHD are impaired when acquired knowledge needs to be applied in novel contexts (Chapter 5) • MPH treatment improves learning of stimulus-reward associations and shows potential (trend effect) to improve generalization of knowledge (Chapter 5) • Parents of children with ADHD report differential responses of their children to punishment and reward, compared to parents of TD controls (Chapter 4) • Children with ADHD and TD controls profit equally from positive feedback and reward, resulting in better math performance (Chapter 6) • MPH treatment does not affect the ability to profit from feedback and reward on a math task (Chapter 6)