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Reward sensitivity in ADHD

Gaastra, Geraldina

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CHAPTER 4

Motivation and educational functioning in students with ADHD



Individuals with attention-deficit/hyperactivity disorder (ADHD) are at risk for difficulties in educational functioning, including underachievement, grade retention, special educational placement, and school dropout (Barkley, 2015; Frazier et al., 2007; Loe & Feldman, 2007; Reid et al., 1994). The behavioral (e.g., hyperactivity) as well as the cognitive characteristics (e.g., executive dysfunction) of ADHD are likely to contribute to these difficulties (Barry, Lyman, & Klinger, 2002; Biederman et al., 2004; Diamantopoulou, Rydell, Thorell, & Bohlin, 2007; Merrell & Tymms, 2001). However, motivational deficiencies may also play a crucial role. The aim of this chapter is to discuss the association between motivation and educational functioning in students with ADHD.

Academic motivation is a student's approach, persistence, and level of interest with regard to academic tasks (DiPerna & Elliott, 1999). Research has shown that ADHD is associated with a reduced academic motivation (see review of Z. R. Smith & Langberg, 2018). For example, relative to typically developing students, students with ADHD are less likely to enjoy learning and more often prefer simple tasks (Carlson et al., 2002). Furthermore, teachers indicate that students with ADHD show less initiative, persistence and goal-directed behavior regarding academic tasks (Demaray & Jenkins, 2011; Ogg, Volpe, & Rogers, 2016). Teachers also perceive students with ADHD as less willing to invest effort beyond minimum work, to learn new things, and to complete assignments without teacher intervention (Carlson et al., 2002; Zentall & Beike, 2012). Finally, students with ADHD seem to adopt an aversive academic motivational style, i.e., they have a higher need to avoid failure than to achieve success (Olivier & Steenkamp, 2004).

Academic motivation significantly predicts academic achievement (DiPerna, Volpe, & Elliott, 2002, 2005). Multiple studies have shown that higher academic motivation in students with ADHD is positively associated with reading achievement (Demaray & Jenkins, 2011; DiPerna et al., 2002; Gut, Heckmann, Meyer, Schmid, & Grob, 2012; Ogg et al., 2016; Volpe et al., 2006) and math achievement (Gut et al., 2012; Volpe et al., 2006) but also with other educational outcomes, such as overall grades, homework performance, and school refusal and expulsion (Birchwood & Daley, 2012; Langberg et al., 2018; Martin, 2014). Importantly, the relationship between academic motivation and achievement is stronger for students with ADHD than for typically developing students (Gut et al., 2012; Z. R. Smith & Langberg, 2018). Moreover, academic motivation seems to mediate the association between symptoms of ADHD and academic achievement (Demaray & Jenkins, 2011; Ogg et al., 2016; Volpe et al., 2006).

Considering that a low academic motivation contributes to the educational difficulties of students with ADHD, it is paramount to search for ways in order to increase the motivation of students with ADHD. Some interventions may focus on increasing academic *intrinsic motivation*, which is the self-desire to engage in learning and schoolwork because of enjoyment (see General introduction of this thesis). For example, teachers may develop educational approaches, methods, and tasks that are more interesting for students, such as offering task choices, computer-assisted instruction, and peer tutoring. In contrast to intrinsic motivation, *extrinsic motivation* is the desire to engage in certain behaviors in order to earn a reward or avoid punishment (see General introduction

of this thesis). With regard to the educational setting, teachers may provide grades, feedback (i.e., praise and reprimands), or other rewards (e.g., points, stickers, and privileges) to increase students' motivation. The previous chapters of this thesis suggest that especially students with ADHD may benefit from such external rewards. The next chapter (Chapter 5) examines the effects of different types of classroom interventions on the task-irrelevant behaviors in students with symptoms of ADHD. Finally, Chapter 6 investigates Dutch teachers' experiences with these interventions in school practice.

