Reading motivation and later reading achievement for students with reading disabilities and comparison groups (ADHD and typical): A 3-year longitudinal study

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ABSTRACT

This study examined the time-course relationship between reading motivation and later reading achievement for students with reading disabilities (RD) and comparison groups (ADHD and typical). The 3-year longitudinal analysis of 76 students replicated prospective work with all students by reporting reduced motivation and novel findings of reduced reading behavior from elementary to middle schools. Students with RD maintained low intrinsic and extrinsic reading motivation in their transition to middle school but also decreased their reading for school; the ADHD group also decreased reading for school and for personal enjoyment and also reported the greatest reduction in extrinsic motivation. We provided partial support for theoretical hypotheses but failed to document an increase in extrinsic motivation in response to failure for the RD group.
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1. Introduction

The purpose of this study was to assess changes in reading motivation from elementary through middle school levels and the relationship among earlier reading failure, reading motivation, reading amount (behavior), and later achievement for students with Reading Disabilities (RD) and for comparison groups of students with Attention Deficit Hyperactivity Disorder (ADHD) and students without disabilities (ND). As a background to this study, we presented types of motivation, their assessment within the reading context, and their associations with reading achievement and behavioral outcomes (e.g., amount of reading).

Types and levels of motivation are moderated by several factors, one of which is the course of motivation over time (for review see Eccles & Wigfield, 2002). Another moderating variable proposed in this study is prior failure (e.g., reading problems for children with RD, social problems for children with ADHD). That is, the learning and emotional theory of motivation suggests that prior failure can moderate motivation. Specifically, there are reports that negative emotions (anxiety, shame) engendered by failure reduced intrinsic motivation while strengthening extrinsic motivation (for review, see Pekrun & Linnenbrink-Garcia, 2012).

1.1. Reading motivation

Reading motivation has been defined as "the enduring readiness of a person to initiate reading activities" (Schaffner, Philipp, & Schiefele, 2014). The import of reading motivation relies on its relationship to achievement and behavioral outcomes (Guthrie, Wigfield, & You, 2012). Documented associations among motivation, reading engagement, and achievement provide support for the reading engagement model (Guthrie & Wigfield, 2000), which is based on theories of self-determination, expectancy value, and social motivation (for review see Klauda & Guthrie, 2015). Specifically, this model proposes to assess (a) the multiple types of reading motivation (e.g., intrinsic and extrinsic motivation, self-efficacy, and social motivation), (b) correlations among these motivational variables, and (c) the causal effects of motivation, engagement, and students' achievement on reading at elementary and secondary levels (Klauda & Guthrie, 2015; Logan, Medford, & Hughes, 2011).

Prominent among these types is intrinsic motivation, defined generally as an internal engagement to persist on an activity (Wigfield, Guthrie, Tonks, & Perencevich, 2004). This type of motivation has been associated with achievement across subject areas for average students (i.e., math, science, and reading; Gottfried, Fleming, & Gottfried, 2001; Otis, Grouzet, & Pelletier, 2005; Retelsdorf, Koller, & Moller, 2011), across grade levels (i.e., 3rd through 6th grade; Becker, McElvany, & Kortenbruck, 2010), and across subtypes of students (i.e., struggling and advanced readers; Klauda & Guthrie, 2015; Logan et al., 2011).

More specifically related to reading, intrinsic motivation defined as interest and enjoyment, has been documented as a correlate of recall and reading comprehension, reading achievement growth, metacognitive strategy knowledge, and diverse reading strategies

for elementary and secondary students (Klauda & Guthrie, 2015; Retelsdorf et al., 2011; for review, see Schiefele, Schaffner, Moller, & Wigfield, 2012). The beneficial effects of intrinsic motivation on reading achievement appear to be moderated by the amount of time that children engaged in reading, especially for high achieving students (Becker et al., 2010; Schaffner et al., 2014; Schaffner, Schiefele, & Ulferts, 2013).

Extrinsic motivation, another type of motivation, which is more immediate, temporary, and situation-specific, encourages children to persist on tasks in order to obtain external recognition, rewards, and incentives (McGeown, Norgate, & Warhurst, 2012). The evidence of associations between extrinsic motivation and reading achievement are less consistent (Wigfield et al., 2004), with reports of negative correlations (Becker et al., 2010) and nonsignificant associations (Andreassen & Braten, 2010). For example, in longitudinal analyses, 6th grade reading literacy was inversely predicted by 4th grade extrinsic motivation ($\beta = -.59$, $p < .001$) but positively predicted by 4th grade reading amount ($\beta = .35$, $p < .001$). There was also a negative association between 4th grade reading amount and 4th grade extrinsic motivation ($\beta = -.12$, $p < .05$) (Becker et al., 2010). Such findings with typical children without reading problems have been attributed to the negative contribution of extrinsic motivation to reading amount and to reading comprehension (Schaffner et al., 2013).

In motivational comparison studies, intrinsic more than extrinsic motivation was associated with independent reading frequency, engagement behavior, and reading comprehension performance (De Naeghel, Van Keer, Vansteenkiste, & Rosseel, 2012). To also indicate the relative importance of intrinsic motivation, the positive associations reported between extrinsic motivation and reading achievement depended on the level of intrinsic motivation (Park, 2011).

Another type of reading motivation is self-efficacy, which is the belief that one is capable of successfully performing a particular task. Self-efficacy (confidence) was associated with word and sentence reading skills, text comprehension, and reading comprehension growth (Guthrie, Hoa, Wigfield, Tonks, & Perencevich, 2006; Ho & Guthrie, 2013; Hornstra, Veen, Peetsma, & Volman, 2013; Walker, Greene, & Mansell, 2006). Self-efficacy also changes across time. For example, a longitudinal analysis reported decreased self-efficacy following the junior high transition (from 6th to 7th grade) for general education students (Wigfield & Eccles, 1994). More recently, a curvilinear "u-shape" pattern of self-efficacy has been reported for students without disabilities, with decreased self-efficacy after 3rd grade, which then increased and was stable through 6th grade (Hornstra et al., 2013).

Another type of motivation associated with achievement and with developmental attributes is social motivation. When social motivation is defined within the context of reading, it involves intentions to interact socially during reading tasks (i.e., involving pro-social goals, Guthrie et al., 2012), such as reading together with friends, talking with friends about reading, and sharing books with others. Time course changes over a 3-year span have been documented in general education populations, which suggest a decrease in seeking social approval (social motivation) from 3rd to 5th grades (i.e., Meece & Miller, 1999). Social motivation has not been documented as a correlate of other types of reading motivation, engagement behavior, or with comprehension growth (Guthrie et al., 2007).

The last type of reading motivation is work avoidance. Work avoidance has been defined behaviorally as an action that avoids reading tasks or involves the least amount of time and effort or as an attitude expressed as an aversion toward reading (Ho & Guthrie, 2013; Klauda & Guthrie, 2015; Meece & Miller, 2001). Work avoidance is negatively related to intrinsic and social motivations, self-efficacy, and standardized reading comprehension and fluency (Ho & Guthrie, 2013). However related to longitudinal work, findings were less consistent over time, with no clear trends in work avoidance (e.g., decline in 3rd grade, an increase in 4th grade, no change following 4th grade in a mixed ability group of students, Meece & Miller, 2001).

1.2. Group differences

Less consistent are findings relating motivation to reading achievement for students with reading disabilities. For example, there was no significant association between reading achievement and any type of motivation (i.e., intrinsic, extrinsic, social, and self-efficacy) for 3rd to 8th poor readers, but significant associations were reported when good and poor reader groups were combined as a group (McGeown et al., 2012). Similar findings have been reported between reading comprehension and intrinsic motivation and self-efficacy, but only for combined groups of struggling and adequate middle and high school readers (Klauda & Guthrie, 2015; Wolters, Denton, York, & Francis, 2014). Thus, these associations could be attributed to the good readers.

In contrast, evidence has been reported that intrinsic motivation predicted reading comprehension growth for 4th to 6th grade poor readers more than for good readers (Logan et al., 2011). Furthermore, the social motivation of 7th grade struggling readers was associated with general comprehension when social motivation was defined as peer devalue (e.g., "my classmates do not care about my opinion about the information books I read for school," Klauda & Guthrie, 2015, p. 246). Thus, the intrinsic and social motivation of poor readers may have specific correlates to reading achievement.

It is also possible that the lack of consistent findings is due to the failure to examine groups of students at specific age levels. Using this specific-to-age rather than elementary versus secondary level approach, students with RD had higher work avoidance as early as 2nd grade, lower self-efficacy and intrinsic motivation at the 3rd grade level, lower extrinsic motivation in the 4th grade, and later in the 5th grade, they had lower social motivation than students without disabilities (Lee & Zentall, 2012).

Fewer conclusions can be drawn from the research on students with ADHD, who have less frequently been studied in general academic, reading, or social motivation. However, reports have been published across academic and social areas. For example, students with ADHD have been rated as lower on general motivation and as having lower self-expectations, less likely to learn new things, or complete assignments without teacher intervention, while expending less effort, less enjoyment of learning, assuming less challenging work, and less consistently using strategies (Carlson, Booth, Shin, & Canu, 2002; Zentall & Beike, 2012).

More specific to the characteristic social deficits of ADHD, teachers rated students with ADHD as lacking social motivation (i.e., less motivated to work well with other students) as early as 6–8 years, in contrast to comparison students and students with RD, who were not rated with lower social motivation until 9–11 years of age (Zentall & Beike, 2012). Notably, when social motivation was defined within the context of reading (an area of relative strength for students *without* RD), students with characteristics of ADHD did not differ from their general education peers until the 5th grade (e.g., self-rated "My friends and I like to trade things to read," "I talk to my friends about what I am reading") (Lee & Zentall, 2012). That is, the reading context obviated group difference in social motivation for students with ADHD characteristics until the 5th grade.

1.3. Summary

We conclude that specific types of motivation may serve as a basis for assessment and intervention for students with RD and students with characteristics of ADHD. Currently, there is a research base in general education and some preliminary work including students with disabilities. In this preliminary work, motivational deficits have been documented in areas of problem functioning (e.g., in reading motivation for students with reading difficulties, in social motivation for students with characteristics of ADHD), especially at early age levels. These early motivational deficits appear to generalize at