

Relations of Children's Motivation for Reading to the Amount and Breadth of Their Reading

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The authors explored different aspects of children's reading motivation and how children's motivation related to the amount and breadth of their reading. The reading motives assessed included self-efficacy, intrinsic-extrinsic motivation and goals, and social aspects. Fourth- and 5th-grade children ($N = 105$) completed a new reading motivation questionnaire twice during a school year. Children's reading amount and breadth were measured using diaries and questionnaires. Children's reading motivation was found to be multidimensional. Their motivation predicted children's reading amount and breadth even when previous amount and breadth were controlled. An intrinsic motivation composite predicted amount and breadth of reading more strongly than did an extrinsic motivation composite. Some aspects of girls' reading motivation were more positive than boys'.

Students' reading amount and breadth contribute substantially to several valued aspects of their achievement and performance, such as reading achievement, world knowledge, and participation in society. Anderson, Wilson, and Fielding (1988) found that the amount of independent out-of-school reading accounted for 16% of the variance in the reading comprehension of fifth graders, after general activity levels were controlled. Similarly, Stanovich and Cunningham (1992) found that amount and breadth of reading predicted reading achievement, as indicated by standardized vocabulary tests, even after previous general intelligence was controlled. Both Anderson et al. and Cipielewski and Stanovich (1992) found that the amount of reading predicted growth of reading achievement during elementary school on different measures of reading comprehension (Cipielewski & Stanovich, 1992).

Children's reading amount and breadth contribute to their knowledge of the world, including knowledge of information such as the size of the National Aeronautics and Space Administration budget, who were allies in World War II, and the distinctions among various religious beliefs (Stanovich & Cunningham, 1993). Individuals who read frequently also

participate more in their communities. Guthrie, Schafer, and Hutchinson (1991), using a national database, found that amount of reading predicted participation in community organizations, after home background and level of schooling were controlled.

We thus were interested in developing a theoretical and empirical account of amount and breadth of reading, and focused on motivation for reading as an important contributor to amount and breadth of reading. We took a motivational focus because motivation determines why individuals do (or do not) choose to do different activities (see Eccles, Wigfield, & Schiefele, in press). Because researchers still do not know a great deal about the nature of motivation specifically for reading, our first task was to conceptualize and then measure reading motivation. We began with the notion that there are a variety of motives relevant to engaging in reading activity (see Baker, Afflerbach, & Reinking, 1996; Guthrie, McGough, Bennett, & Rice, 1996; Oldfather & Wigfield, 1996). We examined the motivation literature to find constructs pertinent to engaging in reading activity. We then developed a questionnaire to measure these aspects of motivation, and assessed their relations to the amount and breadth of children's reading.

There are many different theories of motivation and different motivational constructs within them (for recent reviews, see Eccles et al., in press; Pintrich & Schunk, 1996). In this study we adapted to reading three sets of constructs currently prominent in the motivation field. First are individuals' beliefs about their efficacy to achieve. Second are constructs dealing with the purposes individuals have for doing different tasks; these constructs include valuing of achievement, intrinsic and extrinsic motivation, and goals for achievement. Third are social aspects of motivation.

Self-Efficacy Beliefs

Many researchers interested in motivation focus on students' sense of efficacy and beliefs about their ability (e.g.,

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Bandura, 1977; Eccles et al., 1983; Nicholls, 1990). Ability beliefs are children's evaluations of their competence in different areas. Bandura (1977) defined self-efficacy as a generative capacity where different subskills are organized into courses of action. He proposed that individuals' efficacy expectations for different achievement tasks are a major determinant of activity choice, willingness to expend effort, and persistence. Schunk and his colleagues demonstrated that children's sense of efficacy relates to their academic performance, and that training students both to be more efficacious and to believe they are more efficacious improves children's achievement in different subject areas such as math and reading (see Schunk, 1991; Schunk & Zimmerman, 1997). An important implication of this work for motivation for reading is that when children believe they are competent and efficacious at reading they should be more likely to engage in reading.

Intrinsic and Extrinsic Motivation and Goals for Learning

Motivation researchers also have studied different purposes children have for doing various activities. Relevant constructs include children's valuing of achievement, intrinsic and extrinsic motivation, and achievement goals. These constructs are crucial to motivation. Even if individuals believe they are competent and efficacious at an activity they may not engage in it if they have no purpose for doing so.

Eccles et al. (1983) defined different components of task values, including *interest value* (defined as how much the individual likes the activity), *attainment value* (defined as the importance of the activity), and *utility value* (the usefulness of an activity). Eccles and her colleagues found that students' ability beliefs and expectancies for success predict their performance in mathematics and English, whereas their subjective task values predict both intentions and actual decisions to keep taking mathematics and English, even when previous performance is controlled (Eccles et al., 1983; Meece, Wigfield, & Eccles, 1990; see Wigfield & Eccles, 1992, for review).

A construct related to the interest value component is intrinsic motivation. Intrinsic motivation refers to choosing to do and then doing an activity for its own sake, rather than for "extrinsic" reasons such as receiving recognition or grades (see Deci & Ryan, 1985). One aspect of intrinsic motivation is becoming totally involved in the activity one is doing. Many readers have experienced what Csikszentmihalyi (1978) described as the *flow experience*, losing track of time and self-awareness when becoming completely involved in an activity such as reading a book. Nell (1988) referred to this state as an "intense and highly energized state of concentrated attention" (p. 263), which he believed many individuals seek to obtain. An important implication of these theorists' work for reading is that readers' engagement in reading will be greatly facilitated when they are intrinsically motivated to read.

Achievement goals is another construct related to the purposes children have for achievement (see Ames, 1992; Dweck & Leggett, 1988; Nicholls, Cheung, Lauer, &

Patashnick, 1989). Dweck and Leggett (1988) defined two major kinds of goal orientations children can have: performance goals and learning goals. Individuals with a performance goal orientation seek to maximize favorable evaluations of their ability and minimize negative evaluations of ability. Questions like "Will I look smart?" and "Can I beat others?" reflect performance goals. In contrast, with a learning goal orientation, individuals focus on mastering tasks and increasing competence at different tasks. Questions such as "How can I do this task?" and "What will I learn?" reflect learning goals. Nicholls and his colleagues described two similar achievement goal orientations; they used the terms *ego-involved goals* and *task-involved goals* (e.g., Nicholls et al., 1989). Nicholls et al. also discussed *work-avoidant goals*, which concern students' attempts to do as little schoolwork as possible. These and other researchers have demonstrated that children who have learning goals are more likely to maintain positive motivation in school. Work-avoidant students are disengaged from school.

Social Aspects of Motivation

Researchers studying motivation have focused primarily on academic aspects of motivation. Recently, however, scholars have become interested in social motivation. For example, Wentzel (1989) found that high and low achievers' achievement goals differ; high achievers combined strong social and academic goals in school, whereas lower achievers focused more on social goals. Wentzel (1991) reviewed evidence showing that children with prosocial goals and who were socially responsible in the classroom tended to do better in school than children who do not have these kinds of social goals (see also Wentzel, 1996). We therefore included social aspects of reading in our conceptualization of reading motivation.

In sum, motivation researchers have shown that when individuals have positive ability beliefs about an activity and think they can do the activity efficaciously, value the activity for intrinsic reasons, and have learning and prosocial goals, they should do better at the activity and choose to do it more frequently. However, these researchers have not looked specifically at whether these predictions apply to individuals' engagement in reading.

Attitudes About Reading and Interest in Reading

Reading researchers have looked primarily at two motivation-related constructs. The first is children's attitudes toward reading, which are defined generally as individuals' feelings about reading (see J. E. Alexander & Filler, 1976). Alexander and Filler stated that these feelings about reading should influence how much individuals involve themselves in reading; thus attitudes about reading should relate to individuals' motivation for reading (see also Matthewson, 1994; McKenna, 1994, for more specific models of how individuals' attitudes toward reading influence their reading engagement).

A second construct addressed by reading researchers is children's interest in reading (see P. A. Alexander, Kulikow-

ich, & Jetton, 1994, for a review of the work on interest's effects on text comprehension). This construct is related to the work on intrinsic value and motivation discussed above. Researchers have looked at how interest affects comprehension. Schiefele (1996) found that college students who were interested in the text materials used in the study understood those materials more deeply than did students less interested in the materials, even when the students' prior knowledge of the materials and general intelligence were controlled. In studies of fifth and sixth graders, Renninger (1992) found that interest in the materials enhanced comprehension, even of materials that were quite difficult for the children (although there were some gender differences in these patterns). Thus interest in reading appears to be an important motivational variable influencing different aspects of reading performance.

We formulated several research questions for this study, on the basis of the work on children's motivation and on the importance of reading amount and breadth. The first concerns the nature of children's reading motivation: What are the aspects of children's reading motivation? The second concerns relations of reading motivation to amount and breadth of reading: Does children's reading motivation relate to the amount and breadth of their reading? If indeed there are different aspects of reading motivation, there likely are differences (in an absolute sense) in their levels. Consequently, our third research question was which aspects of reading motivation do children hold most strongly?

We also investigated some individual differences in children's reading motivation. These issues are important because recent research on children's beliefs and values regarding reading show that, in general, younger students have more positive beliefs than older students and girls are more positive about reading than are boys (Eccles, Wigfield, Harold, & Blumenfeld, 1993; Gambrell, Codling, & Palmer, 1996; Marsh, 1989). Thus our final research question is: Are there grade, time, and gender differences in children's reading motivation?

Method

Sample

One hundred five Grade 4 and 5 children at an elementary school in a mid-Atlantic state participated in the study. There were 59 fourth graders and 46 fifth graders; 47 of the children were girls and 58 were boys. The children were from mixed socioeconomic backgrounds and were a racially and ethnically mixed group. Approximately 70% of the children were European American and 30% were African American. In the school district from which these children came, the 1994 median reading comprehension percentile on the Comprehensive Test of Basic Skills was 65 for Grade 3 and 55 for Grade 5. A total of 14% of the students receive free or reduced cost meals in school. Permission to participate in the study was obtained from the participants themselves and their parents.

Measures

The Motivation for Reading Questionnaire (MRQ). Wigfield and Guthrie (1995) developed the MRQ to assess different aspects

of reading motivation. On the basis of a previous study in which children were interviewed about their motivation and observed in classrooms during reading instruction (Guthrie, Van Meter, et al., 1996) and our review of motivation theory, we identified 11 possible aspects. They are grouped into the three categories of motivation constructs discussed earlier.

The first two aspects of motivation are based on the work on self-efficacy. These aspects are *reading efficacy*, the belief that one can be successful at reading, and *reading challenge*, the satisfaction of mastering or assimilating complex ideas in text. The next set of aspects are based in the work on intrinsic-extrinsic motivation, subjective values, and achievement goals. The intrinsic motivation and learning goals aspects include *reading curiosity*, the desire to learn about a particular topic of interest to the child, and *reading involvement*, the enjoyment of experiencing different kinds of literary or informational texts. The notion of involvement in reading refers to the pleasure gained from reading a well-written book or article on a topic one finds interesting.¹ *Importance of reading* is an aspect taken from Eccles' and Wigfield's work on subjective task values (Eccles et al., 1983; Wigfield & Eccles, 1992). Another aspect concerns what students say they do not like about reading; we called this dimension *reading work avoidance*. This aspect relates to Nicholls et al.'s (1989) work on work-avoidant goals.

Extrinsic motivation and performance goals aspects include *competition in reading*, the desire to outperform others in reading; *recognition for reading*, the gratification in receiving a tangible form of recognition for success in reading; and *reading for grades*, the desire to be evaluated favorably by the teacher. Because children often read in school where they are evaluated and compared with others, competition, recognition, and grades may figure prominently in their motivation for reading.

The final aspects concern social motivation for reading. One proposed aspect is *social reasons for reading*, the process of sharing the meanings gained from reading with friends and family; another is *compliance*, reading because of an external goal or requirement. These aspects are based on the work on social goals in the motivation literature (Wentzel, 1996).

We wrote items to assess each of these aspects, pilot tested the items on a group of 10 fourth-grade children, and revised some of the items. The version of the MRQ used in this study contained 82 items, with 7 or 8 items measuring each of the proposed aspects (with the exception of reading importance, which was measured by Eccles et al.'s, 1983, existing two-item scale). The original MRQ, with items organized into the proposed aspects of motivation for reading, is presented in the Appendix.

The MRQ was administered twice during the school year, in the fall (October and early November) and spring (March and early April). The questionnaire was administered by Allan Wigfield and a graduate assistant to small groups of children (10 to 15 per group). The administration was done in the media center in the participating school. Children were told they were going to answer questions about their reading, and that the questions had no right or wrong answers. Children answered each item on a 1 to 4 scale, with answer choices ranging from *very different from me* to *a lot like me*. They were given three practice items before beginning the actual questionnaire. Children were allowed to read the questions on their

¹ In previous reports (e.g., Oldfather & Wigfield, 1996; Wigfield & Guthrie, 1995), reading involvement was called reading topics aesthetically enjoyed. We now believe the involvement label better captures this aspect, because the items assess children's involvement with different kinds of reading, as described by Schallert and Reed (1997).

own; the questionnaire administrators were available to answer questions the children had about wording of the items. It took the children approximately 15 to 20 min to complete the MRQ.

The Reading Activity Inventory (RAI). The RAI (Guthrie, McGough, & Wigfield, 1994) is a measure of the breadth and frequency of students' reading. Questions on the RAI ask students whether they read during the last week different kinds of reading material both in and out of school (e.g., different kinds of books, newspapers, comics, as well as books in general). If the child says he or she read a given kind of book in the last week, he or she then is asked to give its title. The child then is asked to indicate how often he or she reads that kind of book, responding on a 1 to 4 scale from *almost never* to *almost every day*.

The RAI was administered directly after the MRQ, by the same administrators. A shortened version was used in this study, asking children about the following kinds of reading materials: comics, magazines, newspapers, books, mystery books, sports books, adventure books, and nature books. The children were told that they were going to answer some questions about what they read and how often they read for fun. They did one practice question, and then completed the RAI. It took children 5 to 10 min to complete the RAI. To gauge the breadth of children's book reading for fun, we created a composite scale of the five items asking about book reading (books, mystery books, sports books, adventure books, and nature books).² Although there is no traditional reliability for this measure, the fall and spring administrations of the measure correlated .54 ($p < .001$), suggesting a substantial level of stability in the measure.

Out of School Reading Amount. We obtained the number of hours each child in the study read outside of school for the 1991–1992 and 1992–1993 school years. This information was provided by the media specialist in the school. Children at the school participated in a special reading program geared toward increasing how much they read outside of school. When students read 30 hours outside of school over the course of a year their names are placed on a large map displayed prominently in the school. All students reading between 30 and 100 hours get recognized at the end of the year at a school assembly. They also receive a free paperback book. Students reading 100 hours or more outside of school receive additional books and prizes. The 16 top students received a personalized tour of the White House, and the student reading the most received a hard back book valued up to \$20.

Students at the participating school volunteered to participate in the special reading program; during the year of the study approximately 85% of the students participated. All the students in this study were in the program. All participating students took home logs on which parents recorded the number of minutes (recorded in quarter hour increments) the student read each day outside of school, up to a maximum of 2 hours per day on school nights and 4 hours on Saturday and Sunday. All kinds of reading materials could be included in the reading logs, as could the time parents or siblings read to the child. However, homework time did not count as outside reading time, nor did reading at school. The parents signed the logs to ensure their accuracy. The times were recorded for all 7 days of the week, beginning in the middle of September and ending in mid-May. Parents returned the logs to the school every 2 weeks, and the media specialist recorded them. A summary of this information provided our measure of the amount of children's reading (we were not given the individual biweekly logs). In the absence of other indicators of measurement reliability, we correlated the diary data from the 2 years. The correlation was .59 ($p < .001$), indicating substantial stability for this indicator.

The average number of hours children spent reading during the 1991–1992 school year (the year before the study) was 58.88

($SD = 54.83$), and in the 1992–1993 school year the average was 73.59 ($SD = 84.14$). We converted the hours per school year figures into minutes per day, using the 8-month time period over which the special reading program occurred (and assuming 30 days per month). For 1991–1992, children's mean minutes read per day was 14.72 min per day ($SD = 13.71$); the median minutes per day was 11.12. For 1992–1993, children's mean minutes read per day was 18.40 ($SD = 21.03$); the median minutes read per day was 12.81.

These means and medians are higher than the means of 10.1 (median of 4.6) minutes per day of book reading reported by Anderson et al. (1988), and 10.2 (median of 5.0) minutes per day reported by Allen, Cipelewski, and Stanovich (1992) in diary studies. Different measurement procedures likely explain the difference. Our information was obtained in 15-min intervals, whereas Anderson et al. and Allen et al. used 1-min intervals. We relied on parent report, whereas they used student report. Students in our study participated in a reading incentive program to increase their reading, whereas students in the other studies did not. Any or all of these differences could have produced the higher mean and median levels of reading in our study.

Results

The results presented are organized to correspond to the research questions: (a) What are the aspects of children's reading motivation; (b) Does children's reading motivation relate to the amount and breadth of their reading; (c) Which aspects of reading motivation do children hold most strongly; and (d) Are there grade, time, and gender differences in children's reading motivation?

Aspects of Children's Motivation for Reading

Various analyses were done to determine whether the proposed aspects of reading motivation could be identified empirically. First, unit-weighted scales were created for each of the proposed aspects, by averaging across all the items assessing each proposed dimension. The internal consistency reliabilities of these scales then were computed, at both the fall and spring times of measurement. The reliabilities are presented in the top half of Table 1. The most reliable scales included Challenge, Curiosity, Involvement, Social, Competition, and Compliance. The reliabilities for the other scales were poorer, suggesting that the items proposed to form these scales in fact did not cohere as well together.

Item-total correlations. Most of the items written to assess a given aspect correlated moderately to strongly with the total score on the scale that included all the items assessing the proposed aspect of reading motivation. However, in several cases these item-total correlations were less than .40. This occurred on the following scales in the fall administration of the questionnaire: Efficacy (one item), Curiosity (one item), Recognition (two items), Grades (one item), Challenge (one item), and Work Avoidance (two items). For the spring administration, the following scales had some items with lower item-total correlations: Efficacy

² It should be noted that this set of topics actually may favor boys. As discussed below, however, girls and boys did not differ in their reading breadth.

Table 1
Reliabilities for the Theoretical and Factor-Based Reading Motivation Scales

| Scale | Fall | Spring |
|---------------------|------|--------|
| Theoretical | | |
| Efficacy | .51 | .55 |
| Challenge | .66 | .72 |
| Curiosity | .68 | .80 |
| Involvement | .77 | .81 |
| Importance | .59 | .52 |
| Recognition | .57 | .66 |
| Grades | .63 | .47 |
| Social | .77 | .72 |
| Competition | .77 | .79 |
| Compliance | .71 | .70 |
| Work Avoidance | .40 | .56 |
| Factor-based | | |
| Efficacy | .63 | .68 |
| Challenge | .68 | .80 |
| Curiosity | .70 | .76 |
| Involvement | .72 | .76 |
| Importance | .59 | .52 |
| Recognition | .69 | .69 |
| Grades | .59 | .43 |
| Social | .78 | .72 |
| Competition | .75 | .81 |
| Compliance | .62 | .55 |
| Work Avoidance | .44 | .60 |

(one item), Recognition (one item), Grades (one item), Challenge (one item), and Work Avoidance (one item). The items with low item-total correlations at each time of measurement generally were the same.

Factor analyses. We did factor analyses to assess further the different proposed motivation aspects. The items first were analyzed to see if any were badly skewed. In the fall administration, five items were badly skewed. Two of these items were from the Grades scale, and one each from the Efficacy, Compliance, and Involvement scales. In the spring administration, the same two items from the Grades scale were skewed. Additionally, one other item from the Grades scale, the same Efficacy item, and one Compliance item were badly skewed. These items were not included in the factor analyses.

Because the sample size was not large enough to analyze all the items at once, we did the factor analyses separately on the items from each individual motivation aspect to determine whether those items indeed did define that dimension. This determination was made by examining the factor loadings for the different items, using a value of .40 to indicate that an item loaded on a given factor. Many of the items loaded on the aspects they were proposed to assess; however, some did not. In the fall administration, the items loading at less than .40 on the appropriate dimension included Social (Item 56), Compliance (Item 13), Efficacy (Items 9, 15, 16, 18, and 58), Curiosity (Items 20, 23, and 45), Recognition (Items 40, 41, and 67), Grades (Items 18 and 33), Challenge (Items 50 and 66), Competition (Item 76), and Work Avoidance (Items 8, 10, and 71). In the spring

administration, the items loading less than .40 on the appropriate aspects included Social (Item 56), Compliance (Item 73), Efficacy (Items 9, 15, 16, 18, and 58), Recognition (Items 41 and 67), Grades (Item 33), Challenge (Items 50, 63, and 66), Competition (Item 75), and Work Avoidance (Items 8, 53, and 71). Many of these items were ones that showed poor item-total correlations. Next, these items with weaker loadings were eliminated, and the factor analyses on each separate motivation dimension were re-run. All of the remaining items loaded on the dimension they were proposed to assess.

On the basis of these different analyses, we deleted 27 of the items from the original list of items; these items are indicated by an asterisk in the Appendix. We computed unit-weighted scales from the reduced item set. Reliabilities for these scales are presented in the bottom half of Table 1. Several of the new scales were more reliable than the original theoretical scales. These included Efficacy, Challenge, Recognition, and Work Avoidance (although the reliability for this scale was still low, especially in the fall). Reliability of the following scales stayed the same: Curiosity, Importance, Social, and Competition. The Involvement, Grades, and Compliance scales showed slight decreases in reliability. We used the factor-based scales in the subsequent analyses.

We also factor analyzed the fall and spring motivation scales to determine if there were higher order dimensions of reading motivation. A three-factor solution was best for both the fall and spring scales. The factor loadings are presented in Table 2. The pattern of loadings was relatively similar at

Table 2
Factor Loadings of the Reading Motivation Scales

| Scale | 1 | 2 | 3 |
|----------------|--------|-----|------|
| | Fall | | |
| Social | .81 | | |
| Compliance | | .80 | |
| Efficacy | .78 | | |
| Curiosity | .62 | | |
| Involvement | .48 | .50 | -.41 |
| Recognition | .81 | | |
| Grades | | .68 | |
| Challenge | .41 | .61 | |
| Competition | | | .74 |
| Importance | | .68 | |
| Work Avoidance | | | .74 |
| | Spring | | |
| Social | .67 | | |
| Compliance | | .76 | |
| Efficacy | .64 | | |
| Curiosity | .77 | | |
| Involvement | .79 | | |
| Recognition | .54 | .56 | |
| Grades | | .74 | |
| Challenge | .83 | | |
| Competition | | | .85 |
| Importance | | .72 | |
| Work Avoidance | -.43 | | .60 |

Note. Factor loadings less than .40 are not presented.

the fall and spring times of measurement. At each time of measurement, the first factor consisted of the following scales: Social, Efficacy, Curiosity, Involvement, Recognition, and Challenge. Thus this factor includes some of the scales measuring more intrinsic aspects, those measuring efficacy and challenge, social reasons for reading, and the extrinsic motivation recognition. The second factor consisted of Compliance, Grades, Recognition (at the spring), and Importance. It therefore is a combination of scales measuring extrinsic motivation, one social aspect of reading, and one scale designed to measure more intrinsic motivation. The third factor consisted of Competition and Work Avoidance; Involvement loaded negatively on this factor at the fall time of measurement.

Correlations of the motivation scales. Correlations of the motivation scales are presented in Table 3. Most of the relations were positive, and ranged from low to moderately high. The strongest relations included those between Social and Recognition ($r = .62$ in the fall, $.50$ in the spring), Social and Involvement ($r = .52$ in the fall, $.50$ in the spring), Efficacy and Recognition ($r = .60$ in the fall, $.53$ in the spring), Curiosity and Involvement ($r = .52$ in the fall, $.62$ in the spring), Curiosity and Challenge ($r = .52$ in the fall, $.61$ in the spring), Involvement and Challenge ($r = .54$ in the fall, $.62$ in the spring), Recognition and Grades ($r = .52$ in the fall, $.51$ in the spring), and Grades and Importance ($r = .50$ in the fall, $.48$ in the spring). The Work Avoidance scale related negatively to all of the scales except to Competition.

Relations of Children's Reading Motivation to the Amount and Breadth of Their Reading

The correlations of the factor-based motivation scales to the number of minutes per day children read outside of school in each of the two school years, and the composite breadth of reading variable taken from the Reading Activity Inventory, are presented in Table 4. The relations were in the low to moderate range. The fall motivation scales showing the strongest positive correlations with the amount of time students read outside of school and the breadth of their book reading included Efficacy, Involvement, and (to a slightly lesser extent) Challenge, Recognition, Grades, and Social. Fall Work Avoidance was significantly and negatively related to amount of reading during the 1992–1993 school year. The spring motivation scales most strongly and positively correlated to reading amount and breadth included Curiosity, Involvement, Recognition, Grades, and, to a lesser extent, Efficacy, Challenge, Importance, and Social. Work Avoidance related significantly and negatively to children's reports of the breadth of their book reading.

We looked at the relations of intrinsic and extrinsic aspects to reading amount and breadth in several other ways. First, we computed composite scales tapping broader aspects of motivation, for both the fall and spring scales. We created these composites on the basis of theoretical distinctions in the motivation literature, and on the results of the factor analyses of the motivation scales in this study. The first composite scale included scales measuring efficacy and

Table 3
Correlations of the Factor-Based Motivation Scales

| Scale | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|--------------------|--------|-------|--------|--------|--------|--------|-------|--------|------|-------|
| Fall | | | | | | | | | | |
| 1. Social | — | | | | | | | | | |
| 2. Compliance | .26** | — | | | | | | | | |
| 3. Efficacy | .55** | .25* | — | | | | | | | |
| 4. Curiosity | .48** | .32** | .52** | — | | | | | | |
| 5. Involvement | .52** | .39** | .42** | .52** | — | | | | | |
| 6. Recognition | .62** | .27** | .60** | .53** | .41** | — | | | | |
| 7. Grades | .37** | .46** | .43** | .49** | .40** | .52** | — | | | |
| 8. Challenge | .39** | .35** | .51** | .52** | .54** | .34** | .50** | — | | |
| 9. Competition | .06 | .11 | .26* | .15 | .05 | .34** | .24* | .25* | — | |
| 10. Importance | .36** | .42** | .41** | .49** | .45** | .44** | .50** | .44** | .24* | — |
| 11. Work Avoidance | -.26** | -.17 | -.14 | -.21* | -.42** | -.14 | -.19* | -.32** | .19* | -.22* |
| Spring | | | | | | | | | | |
| 1. Social | — | | | | | | | | | |
| 2. Compliance | .14 | — | | | | | | | | |
| 3. Efficacy | .33** | .29** | — | | | | | | | |
| 4. Curiosity | .52** | .26* | .47** | — | | | | | | |
| 5. Involvement | .50** | .28* | .51** | .62** | — | | | | | |
| 6. Recognition | .50** | .31** | .53** | .43** | .49** | — | | | | |
| 7. Grades | .41** | .40** | .35** | .37** | .34** | .51** | — | | | |
| 8. Challenge | .49** | .21* | .49** | .61** | .62** | .41** | .30** | — | | |
| 9. Competition | -.01 | .09 | .24* | .15 | .09 | .28** | .19 | .22* | — | |
| 10. Importance | .32** | .37** | .35** | .42** | .37** | .52** | .48** | .27* | .22* | — |
| 11. Work Avoidance | -.27** | -.13 | -.26** | -.30** | -.33** | -.29** | -.14 | -.25* | .16 | -.10* |

* $p < .05$. ** $p < .01$.

Table 4
Relations of Children's Reading Motivation to Their Reading Amount and Breadth

| Motivation scale | Reading amount | | Reading breadth |
|-----------------------|----------------|-----------|-----------------|
| | 1991-1992 | 1992-1993 | |
| | Fall | | |
| Reading Efficacy | .31** | .36** | .30** |
| Challenge | .04 | .11 | .27** |
| Curiosity | .13 | .24* | .22* |
| Involvement | .26** | .24* | .35** |
| Importance of Reading | .11 | .20 | .20 |
| Recognition | .14 | .24* | .25* |
| Grades | .12 | .21* | .18 |
| Social | .23* | .18 | .27** |
| Competition | -.15 | .01 | .06 |
| Compliance | .07 | .23* | .14 |
| Work Avoidance | -.18 | -.29** | -.19 |
| | Spring | | |
| Reading Efficacy | .19 | .13 | .36** |
| Challenge | .21* | .22* | .33** |
| Curiosity | .29** | .27** | .50** |
| Involvement | .37** | .31** | .51** |
| Importance of Reading | .14 | .21* | .36** |
| Recognition | .23* | .32** | .39** |
| Grades | .27* | .32** | .23* |
| Social | .21* | .13 | .31** |
| Competition | -.09 | .15 | .15 |
| Compliance | .08 | .06 | .19 |
| Work Avoidance | -.08 | -.13 | -.28** |

Note. Reading amount is measured in minutes read per day.
 * $p < .05$. ** $p < .01$.

aspects of intrinsic motivation, and included the Efficacy, Curiosity, and Involvement scales—we call this the *Intrinsic composite*. The second composite scale consisted of more extrinsic aspects of motivation and performance goals; it included the Recognition, Grades, and Competition scales—we call this the *Extrinsic composite*.

We then examined whether the reading motivation composites predicted variance in reading amount and breadth, beyond the amount of variance predicted by previous reading amount and breadth. In one set of analyses, the fall Intrinsic composite was added after the previous reading amount or breadth variable; followed by the fall Extrinsic composite, the spring Intrinsic composite, and finally the spring Extrinsic composite. In a second set the order of entry of the Extrinsic and Intrinsic motivation composites was reversed. Beginning with the analyses of 1993 reading amount, children's amount of reading in 1992 was a significant predictor of the amount they read in 1993 ($R^2 = .32$, $p < .001$). Neither the fall Intrinsic nor the fall Extrinsic composite resulted in a significant R^2 change (no matter which order they were entered). Adding the spring Intrinsic composite to the equation after the two fall composites did not significantly change the R^2 . But adding the spring Extrinsic motivation composite after the other three motivation composites increased the R^2 significantly ($p < .001$), with the overall R^2 reaching .39. When the

spring Extrinsic composite was added to the equation after previous reading amount and the two fall motivation composites, the R^2 increased significantly ($p < .001$) to .39. Adding the spring Intrinsic composite did not increase the R^2 further.

Children's breadth of reading in the fall predicted significantly their breadth of reading in the spring ($R^2 = .27$, $p < .001$). Neither the fall Intrinsic nor Extrinsic composites explained additional variance in spring reading breadth beyond that explained by fall reading breadth, regardless of the order in which they were entered. Adding the spring Intrinsic composite resulted in a significant R^2 change, with the overall R^2 increasing to .42. Adding the spring Extrinsic composite last did not increase the R^2 further. When the order was reversed and the spring Extrinsic composite was added immediately after the fall composites, the R^2 increased significantly ($p < .05$) to .35. Adding the spring Intrinsic composite further increased the R^2 to .42 ($p < .001$). Further, when both the spring Extrinsic and Intrinsic composites were in the equation the Extrinsic composite no longer was a significant predictor.

Next, we created three levels of each of the composite variables by dividing the sample in thirds on the basis of their score on each combined scale. We then ran one-way ANOVAs on the following reading amount and breadth variables: average minutes read per day during 1991-1992, average minutes read per day during 1992-1993, fall book reading breadth, and spring book reading breadth. Means for each of the different groups and p values are presented in Table 5.

Children with higher intrinsic motivation read more, and with more breadth, than students with lower intrinsic motivation. This pattern occurred on all of the variables, and the differences were significant for all the variables except for the amount of time spent reading in the 1991-1992 school year. The differences are most pronounced on amount of time spent reading for the 1992-1993 school year. During that year the highly intrinsically motivated children spent nearly three times as much time reading outside of school (29.80 min per day) than did the group lowest in intrinsic motivation (10.52 min per day).

By contrast, for the groups high, medium, and low in extrinsic motivation, only two of the amount and breadth variables differed across the groups. One was the amount of time spent reading in 1992-1993, where the children highest in extrinsic motivation in the spring read more than twice as many hours outside of school than did the group lowest in extrinsic motivation. The second was on the fall reading breadth variable; children highest in extrinsic motivation in the fall said they read more books than did children in the other two groups.

Are the differences across the different motivation groups stronger for concurrent and future reading amount and breadth variables than for past amount and breadth variables? Differences on the concurrent and future measures are one indication that children's motivation predicts differences in amount and breadth of their reading. Significant differences favoring the more intrinsically motivated children occurred for the all the amount and breadth variables measured concurrently or later than their motivation (see the

Table 5
Relations of Motivation and Amount and Breadth of Reading Over Time

| Time | Low | | Medium | | High | | <i>p</i> |
|------------------------------------|--------------------|-----------|----------------------|-----------|--------------------|-----------|----------|
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | |
| Intrinsic motivation level | | | | | | | |
| Concurrent and future | | | | | | | |
| Intrinsic fall, breadth fall | 2.09 _a | 0.53 | 2.22 _{a,b} | 0.47 | 2.48 _b | 0.40 | .004 |
| Intrinsic fall, breadth spring | 2.08 _a | 0.52 | 1.98 _a | 0.56 | 2.48 _b | 0.49 | .001 |
| Intrinsic fall, amount 1992–1993 | 12.19 _a | 10.80 | 14.44 _a | 12.40 | 28.60 _b | 30.21 | .003 |
| Intrinsic spring, breadth spring | 1.82 _a | 0.47 | 2.29 _b | 0.51 | 2.48 _b | 0.57 | .000 |
| Intrinsic spring, amount 1992–1993 | 10.52 _a | 10.42 | 18.05 _{a,b} | 21.65 | 29.80 _b | 27.24 | .008 |
| Past | | | | | | | |
| Intrinsic fall, amount 1991–1992 | 9.80 _a | 10.62 | 13.74 _a | 11.62 | 19.34 _a | 14.71 | .020 |
| Intrinsic spring, amount 1991–1992 | 9.18 _a | 10.66 | 15.74 _a | 14.09 | 19.62 _a | 14.87 | .060 |
| Intrinsic spring, breadth fall | 2.08 _a | 0.56 | 2.33 _b | 0.41 | 2.49 _b | 0.41 | .007 |
| Extrinsic motivation level | | | | | | | |
| Concurrent and future | | | | | | | |
| Extrinsic fall, breadth fall | 2.18 _a | 0.54 | 2.18 _a | 0.48 | 2.47 _b | 0.42 | .017 |
| Extrinsic fall, breadth spring | 2.18 _a | 0.58 | 2.05 _a | 0.56 | 2.39 _a | 0.53 | .060 |
| Extrinsic fall, amount 1992–1993 | 13.98 _a | 12.65 | 17.98 _a | 16.27 | 23.83 _a | 29.31 | .180 |
| Extrinsic spring, breadth spring | 2.09 _a | 0.55 | 2.19 _a | 0.61 | 2.38 _a | 0.52 | .130 |
| Extrinsic spring, amount 1992–1993 | 11.61 _a | 12.63 | 17.48 _{a,b} | 13.98 | 29.23 _b | 31.48 | .001 |
| Past | | | | | | | |
| Extrinsic fall, amount 1991–1992 | 13.70 _a | 12.59 | 17.69 _a | 16.55 | 12.80 _a | 11.05 | .360 |
| Extrinsic spring, amount 1991–1992 | 11.59 _a | 11.12 | 16.52 _a | 15.41 | 17.62 _a | 14.64 | .240 |
| Extrinsic spring, breadth fall | 2.17 _a | 0.48 | 2.32 _a | 0.42 | 2.39 _a | 0.54 | .180 |

Note. Means with different subscripts differ at the .05 levels.

top portion of Table 5). There was only one significant difference for previous reading amount and breadth. For the extrinsic motivation groups, there were two significant differences (favoring the more extrinsically motivated children) for the concurrent and later measured amount and breadth of reading variables. There were no significant effects for extrinsic motivation on the previous amount and breadth of reading.

Further regression analyses were done to examine the effects of the motivation composites on reading amount and breadth controlling for the effects of the other motivation composite. That is, we first entered one of the motivation composites, and then entered the other one to see if it explained variance beyond that explained by the first composite. Beginning with the fall composites, when entered first the fall Intrinsic motivation composite predicted spring amount and breadth ($R^2 = .10, p < .05$, and $.12, p < .01$, respectively); the fall Extrinsic composite did not add significantly to the equation. When entered first, the fall Extrinsic composite predicted neither amount nor breadth; the fall Intrinsic composite increased the R^2 significantly (overall $R^2 = .10, p < .05$, and $.12, p < .01$, respectively).

When entered first, the spring Intrinsic composite predicted spring 1993 amount ($R^2 = .08, p < .01$); the spring Extrinsic composite added significantly to the equation (overall $R^2 = .12, p < .001$). Further, when the spring Extrinsic composite was added, the spring Intrinsic composite no longer was a significant predictor. When entered first the spring Extrinsic composite predicted significantly spring

1993 reading amount ($R^2 = .12, p < .001$); the spring Intrinsic composite did not add to the equation.

Turning to reading breadth, when entered first the spring Intrinsic motivation composite predicted spring breadth significantly ($R^2 = .29, p < .001$). Adding the spring Extrinsic composite did not increase the R^2 significantly. When entered first the spring Extrinsic composite also predicted significantly spring reading breadth ($R^2 = .12, p < .001$). When added to this equation the spring Intrinsic composite provided a significant R^2 increase ($p < .001$) to the equation (overall $R^2 = .29$). Also, when the Intrinsic composite was added, the spring Extrinsic composite no longer was a significant predictor.

Levels of Reading Motivation

We computed means and standard deviations for the motivation scales to see which children rated most highly. These are presented in Table 6, along with an indication of which means are significantly different. At both the fall and spring times of testing children's mean scores were highest on the Grades and Importance scales and lowest on the Competition, Social, and Work Avoidance scales. The means for the other six scales were relatively similar to one another in both the fall and the spring. Their ordering in the fall and spring also was relatively similar. Overall, these results showed that children rated both more intrinsic and extrinsic motivation highly and rated Competition, Social, and Work Avoidance relatively low.

Table 6
Means and Standard Deviations for
the Factor-Based Motivation Scales

| Motivation scale | <i>M</i> | | <i>SD</i> | |
|------------------|-----------------------|--|-----------|--|
| | | | | |
| | Fall | | | |
| Grades | 3.26 _a | | .70 | |
| Importance | 3.22 _{a,b} | | .83 | |
| Efficacy | 3.12 _{a,b,c} | | .63 | |
| Involvement | 3.08 _{b,c,d} | | .68 | |
| Curiosity | 3.04 _{b,c,d} | | .73 | |
| Challenge | 3.01 _{b,c,d} | | .72 | |
| Recognition | 2.99 _d | | .71 | |
| Compliance | 2.95 _d | | .49 | |
| Competition | 2.59 _e | | .78 | |
| Social | 2.51 _e | | .74 | |
| Work Avoidance | 2.22 _f | | .72 | |
| | Spring | | | |
| Grades | 3.35 _a | | .64 | |
| Importance | 3.14 _b | | .88 | |
| Involvement | 3.10 _b | | .73 | |
| Challenge | 3.06 _b | | .76 | |
| Efficacy | 3.05 _b | | .76 | |
| Recognition | 3.04 _{b,c} | | .66 | |
| Compliance | 2.97 _{b,c} | | .44 | |
| Curiosity | 2.92 _c | | .77 | |
| Competition | 2.48 _d | | .80 | |
| Social | 2.40 _d | | .72 | |
| Work Avoidance | 2.09 _e | | .74 | |

Note. Means with the same subscript do not differ; means with different subscripts differ at $p < .05$.

Grade, Time, and Gender Differences in Children's Motivation for Reading

We ran 2 (grade) \times 2 (gender) ANOVAs on the various motivation scales. The means for the significant grade and gender differences are presented in Tables 7 and 8. In the fall, there were significant grade differences on three of the scales: Efficacy, $F(1, 94) = 8.33, p < .01$; Recognition, $F(1, 94) = 4.86, p < .05$; and Social, $F(1, 94) = 7.36, p < .01$. In all cases, the fourth graders had higher mean scores than did the fifth graders. In the spring there were no significant grade

Table 7
Means and Standard Deviations for
the Statistically Significant Grade Differences

| Motivation scale | Fourth grade | | Fifth grade | |
|--|--------------|-----------|-------------|-----------|
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> |
| Fall Reading Efficacy | 3.29 | .55 | 2.90 | .68 |
| Fall Recognition | 3.13 | .70 | 2.81 | .70 |
| Fall Social | 2.70 | .78 | 2.27 | .58 |
| Average minutes per day spent reading, 1992-1993 | 22.28 | 24.01 | 12.53 | 13.83 |

Note. For the motivation scales, scores range from 1 to 4. The reading amount measure is in minutes per day. All the grade differences occurred in the fall, with the exception of the amount of reading difference, which was a year-end measure.

Table 8
Means and Standard Deviations for
the Statistically Significant Gender Differences

| Motivation scale | Fall | | | | Spring | | | |
|------------------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|
| | Girls | | Boys | | Girls | | Boys | |
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> |
| Reading Efficacy | 3.29 | .46 | 2.99 | .72 | | | | |
| Importance | 3.48 | .65 | 3.07 | .96 | | | | |
| Social | 2.78 | .72 | 2.32 | .68 | 2.63 | .71 | 2.20 | .68 |
| Competition | 2.31 | .81 | 2.78 | .69 | 2.15 | .76 | 2.74 | .75 |

Note. For the motivation scales, scores range from 1 to 4.

differences on the motivation scales. Fourth graders also read significantly more minutes per day than did the fifth graders in the school-based reading program during the 1992-1993 school year, $F(1, 96) = 5.27, p < .05$. There were no grade differences on the fall or spring book reading breadth measures.

Paired t tests were run on each pair of scales given in the fall and the spring to assess whether the mean level of children's responses on the different motivation scales changed over time. There were no significant differences. We also correlated the fall and spring motivation scales to see how stable they were. The stability correlations ranged from .28 for the Compliance scales to .68 for the Involvement scales. The median stability correlation was .55.

In the fall administration there were gender differences on four of the scales: Efficacy, $F(1, 94) = 4.47, p < .05$; Importance, $F(1, 99) = 4.22, p < .05$; Social, $F(1, 94) = 8.38, p < .01$; and Competition, $F(1, 94) = 7.84, p < .01$; see Table 8 for the means. In all cases but the Competition scale, girls' mean scores were higher than boys' means. In the spring there were significant gender differences on two of these scales, Social, $F(1, 91) = 8.57, p < .01$, and Competition, $F(1, 92), p < .01$. Girls had higher mean scores than did boys on the Social scale, and boys had higher mean scores than girls did on the Competition scale. Boys and girls did not differ in the number of minutes per day read outside of school, nor were there gender differences on the fall or spring book reading breadth measures.

Discussion

The Multifaceted Nature of Reading Motivation

A major conclusion from our results is that reading motivation indeed is multifaceted. The aspects of reading motivation can be grouped conceptually according to important constructs in the motivation literature, and the grouping received empirical support from the factor analyses of the scales. The Efficacy and Challenge aspects reflect work on self-efficacy and competence beliefs (see Bandura, 1977; Schunk, 1991; Wigfield & Eccles, 1992). Bandura and Schunk both have argued that perceived efficacy is one of the strongest predictors of achievement, and we find support for these claims in our results.

Certain of the identified aspects (e.g., Curiosity, Involvement) are tied clearly to the construct of intrinsic motivation (see Deci & Ryan, 1985). Involvement adds an interesting new aspect to the intrinsic motivation construct. This dimension may be unique to areas like reading or art, where the kind of book (or artwork) and the way the work is composed can engage some individuals more than others (see Schallert & Reed, 1997). The Recognition and Grades aspects are like the extrinsic motivation construct in the motivation literature, because they refer to doing an activity for what it brings you rather than for its own sake. Competition is tied to the notion of performance goals in the motivation literature. From a theoretical perspective, Importance is a more intrinsic motivation. In our factor analyses of the motivation scales, however, Importance loaded with the more extrinsic scales. This may have occurred because students felt the importance of participating actively in the school reading program, a program that emphasized extrinsic aspects of motivating students to read. More research is needed to clarify the nature of the Importance construct in reading.

The Social and Compliance aspects concern something relatively new in the motivation literature, social motivation (see Wentzel, 1996). Social interactions in particular are emphasized in recent school-based programs designed to enhance children's reading engagement (e.g., Guthrie, Van Meter, et al., 1996). More research is needed on this aspect of motivation.

A number of the identified aspects were correlated relatively highly with one another. Further, in the factor analyses of the motivation scales the individual scales grouped together in more intrinsic and extrinsic clusters. We interpret these results to mean that children are motivated to read by different but interrelated constructs. We believe that it is useful to posit the 11 different aspects of reading motivation, despite the correlations of some of the aspects. The contexts of home and school afford many opportunities for differentiation of reading motivation. Reading serves multiple roles in school; it is a subject in itself, and a tool for learning in all other subjects. It can be easy or challenging, individual or social, rewarded or unrewarded, and competitive or cooperative; therefore, there can be many motives for reading. In future work, researchers should assess further the dimensionality of these aspects of reading motivation.

Relations of Reading Motivation to Amount and Breadth of Reading

Children's reading motivation (measured at the spring) predicted the amount and breadth of their reading when earlier amount and breadth of reading were controlled. Children's previous reading amount and breadth themselves were important predictors. Thus children who read more, and more broadly, are likely to continue to do so, whereas children reading less frequently are less likely to increase their reading. But knowing whether or not children are motivated to read adds predictive power to this equation.

Indeed, students highest on the Intrinsic motivation composite read nearly three times as many minutes per day

as did the group lowest on this composite. This is a major advantage for the group highest in intrinsic motivation. This group also had a major advantage over the lowest group in breadth of reading. By contrast, the groups high and low in extrinsic motivation did not differ nearly as much on the different measures of amount and breadth of reading. Further, the Intrinsic composite accounted for variance in amount and breadth of reading when the Extrinsic motivation composite was controlled, but the reverse was less often true. The Extrinsic motivation composite did predict reading amount more in the spring than did the Intrinsic composite; this perhaps was due to the school reading program, which emphasized recognition of the children reading most frequently.

Children's concurrent and future amount and breadth of reading varied more as a function of intrinsic motivation level than did past amount and breadth. Therefore, it does not appear that children become frequent readers and then become motivated to read. Rather, children who report they are motivated to read tend to increase their reading in the present and the future (particularly the intrinsically motivated children). Overall, we interpret these results as supportive of motivation theorists who argue that students' intrinsic motivation and learning goals are crucial predictors of long-term participation in different activities (e.g., Deci & Ryan, 1985; Dweck & Leggett, 1988; Nicholls, 1990; Wigfield & Eccles, 1992).

Because amount of reading correlates with reading achievement (e.g., Anderson et al., 1988; Cipelewski & Stanovich, 1992; Cunningham & Stanovich, 1991), it is possible that motivation is a consequence of reading achievement. Alternatively, it also is possible that the correlation of amount of reading and achievement documented by other investigators is mediated by reading motivation. The three variables of reading amount, achievement, and motivation need to be measured simultaneously to permit an examination of these alternatives. This issue awaits future research.

A crucial methodological issue for reading researchers is how to measure amount and breadth of reading. Direct observation is possible under constrained conditions of a particular time and place, but it cannot indicate reading in other contexts (McLoyd, 1979; Morrow, 1992). Children's diaries are another indicator (Anderson et al., 1988; Allen et al., 1992). The advantages of diaries are their face validity and inclusiveness. The disadvantage is cost of student and investigator time. Researchers using questionnaires can gather much information quickly, but the disadvantage is social desirability. A fourth method is the title or author recognition procedure, in which individuals attempt to discriminate authors and titles from foils (Cunningham & Stanovich, 1991). This method has the advantage of minimizing social desirability of children's responses.

We adopted the diaries and questionnaire methods in this study because these amount measures can be studied in terms of change over time. In comparison, a title recognition measure is cumulative; even if a student reads less over time, she still may recognize more titles simply from being exposed to books. Students in this study responded differentially both to the motivation scales (e.g., endorsing some

more than others) and to the measure of reading breadth; therefore social desirability was not a major problem in this study.

Grade, Time, and Gender Differences in Reading Motivation

Older children (fifth graders) were less positively motivated on some of the motivation scales than were the fourth graders, although these differences occurred only in the fall. The mean level of children's responses to the different aspects of reading motivation also did not change over time. Therefore, overall there were few grade or time-related differences in children's reading motivation. We need further longitudinal studies of children's reading motivation to determine more precisely when and if the declines in reading motivation found by other researchers (e.g., Eccles et al., 1993; Gambrell et al., 1996; Marsh, 1989) do occur.

Boys and girls also differed in their motivation for reading, with girls generally showing more positive motivation for reading (although there were fewer differences between boys and girls at the spring time of measurement). Children's reading performance is an important predictor of their school success (Madden, Slavin, Karweit, Dolan, & Wasik, 1993); thus boys' lower reading motivation should be viewed with some concern.

One additional issue should be kept in mind when interpreting the results of this study. We conducted this study in a school in which a special reading incentive program occurred. This program was designed to foster children's reading, primarily through recognition and other extrinsic rewards. It is possible, as mentioned earlier, that this program accentuated the influence of children's extrinsic reading motivation on the amount of their reading. Researchers should examine the relations of reading motivation to reading amount and breadth in schools not participating in such a program.

To conclude, we need to continue to investigate readers' motivation and social dispositions, along with their cognitive reading abilities. Understanding reading motivation better will contribute to the design of classroom contexts that expand and strengthen frequent and enjoyable reading and the benefits it provides.

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Appendix

The Motivation for Reading Questionnaire (MRQ): Original and Revised Versions

Items with an asterisk were deleted in the revised version of the MRQ. The number of items shown in parentheses is for the revised version of the MRQ.

Reading Efficacy (three items)

- I know that I will do well in reading next year
- *I don't know why I sometimes get low grades in reading
- I am a good reader
- *Sometimes I don't feel as smart as others in reading
- *To do well in reading I have to get the teacher to like me
- *I know how well I am doing before I get my paper back
- I learn more from reading than most students in the class
- *I know how to get good grades in reading if I want to

Challenge (five items)

- I like hard, challenging books
- *I need my parents to help me with my reading homework
- *I like to look up words I don't know
- If the project is interesting, I can read difficult material
- I like it when the questions in books make me think
- *I don't like it when we get a lot of difficult reading
- I usually learn difficult things by reading
- If a book is interesting I don't care how hard it is to read

Curiosity (six items)

- If the teacher discusses something interesting I might read more about it

I have favorite subjects that I like to read about
 I read to learn new information about topics that interest me
 *If I am reading about an interesting topic I sometimes lose track of time
 I read about my hobbies to learn more about them
 I like to read about new things
 I enjoy reading books about people in different countries
 *I don't like to read books about living things

Reading Involvement (six items)

I read stories about fantasy and make believe
 I like mysteries
 *I like stories with interesting characters
 I make pictures in my mind when I read
 I feel like I make friends with people in good books
 I read a lot of adventure stories
 I enjoy a long, involved story or fiction book

Importance (two items)

It is very important to me to be a good reader
 In comparison to other activities I do, it is very important to me to be a good reader

Recognition (five items)

I like having the teacher say I read well
 My friends sometimes tell me I am a good reader
 I like to get compliments for my reading
 *It is important for me to get good comments on my reading papers
 *My parents give me gifts when I do well in reading
 I am happy when someone recognizes my reading
 My parents often tell me what a good job I am doing in reading
 *I don't care about getting rewards for being a good reader

Grades (four items)

Grades are a good way to see how well you are doing in reading
 *Getting graded in reading makes me nervous
 *I like to get good grades in reading
 *Getting a high grade in reading makes me proud
 I look forward to finding out my reading grade
 I read to improve my grades
 My parents ask me about my reading grade

Social (seven items)

I visit the library often with my family
 I often read to my brother or my sister

My friends and I like to trade things to read
 I sometimes read to my parents
 I talk to my friends about what I am reading
 I like to help my friends with their schoolwork in reading
 *I don't like reading with other students
 I like to tell my family about what I am reading

Competition (six items)

I try to get more answers right than my friends
 I like being the best at reading
 I like to finish my reading before other students
 I like being the only one who knows an answer in something we read
 *I hate it when others read better than me
 *My friends and I like to see who gets better comments on our papers
 It is important for me to see my name on a list of good readers
 I am willing to work hard to read better than my friends

Compliance (five items)

I do as little schoolwork as possible in reading
 I read because I have to
 *It is important for me to do my reading work carefully
 *I read things that are not assigned
 I always do my reading work exactly as the teacher wants it
 Finishing every reading assignment is very important to me
 I always try to finish my reading on time
 *I do schoolwork so that the teacher can make sure I am paying attention

Reading Work Avoidance (four items)

*I don't like to read out loud in class
 *I think worksheets are boring
 I don't like vocabulary questions
 Complicated stories are no fun to read
 *I don't like having to write about what I read
 *I don't like reading stories that are too short
 I don't like reading something when the words are too difficult
 I don't like it when there are too many people in the story

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