Contemporary Educational Psychology **26,** 454–480 (2001)
doi:10.1006/ceps.2000.1071, available online at http://www.idealibrary.com on IDEAL®

A Longitudinal Analysis of Elementary School Students' Achievement Goals in Literacy Activities

Judith L. Meece

University of North Carolina, Chapel Hill

and

Samuel D. Miller

University of North Carolina, Greensboro

Published online March 10, 2001

The authors examined the temporal stability of elementary school students' (N = 432) motivation goals (task-mastery, performance, and work-avoidant) for literacy activities in the classroom. Task-specific assessments of students' goals were collected in the fall and spring of Grades 3, 4, and 5. Stability coefficients indicated a reasonable degree of consistency in students' goal responses over time, even though goals were initially assessed in relation to a specific learning assignment. However, there were also significant mean-level changes in students' goals within the school year and significant linear declines in task-mastery and performance goals over time. Changes were consistent across gender groups and across ability levels. Additionally, changes in task-mastery goal ratings explained variations in students' reported use of active learning strategies in reading and writing activities. The important implications of this study for future research are discussed. © 2001 Academic Press

The major purpose of this study was to examine the temporal stability children's motivational goals for literacy activities over the late elementary years. Achievement goal theory served as the theoretical framework for the study (Ames, 1992a; Dweck & Elliot, 1983; Maehr, 1984; Nicholls, 1984). Numerous studies indicate that achievement goal theory is useful for understanding motivation and learning processes within laboratory and classroom

Data related to this study were reported in Meece and Miller (1999). We thank the administrators, teachers, and students who generously invited us into their school and classrooms. A special thanks is also extended to John Ferron, Jennifer Treeger Peters, and Phillip Herman, who assisted with data analyses.

Address correspondence and reprint requests to Judith L. Meece, School of Education, CB#3500, University of North Carolina, Chapel Hill, NC 27599-3500. E-mail: Meece@email.unc.edu.

0361-476X/01 $35.00

settings (Ames, 1992a; Dweck & Leggett, 1988; Meece, 1994; Midgley et al., 1998; Nicholls, 1989). Researchers have also used an achievement goal framework for analyzing the influence of school environments on young adolescents (Ames, 1992a; Anderman & Midgley, 1997; Midgley, Anderman, & Hicks, 1995; Roeser & Eccles, 1998; Roeser, Midgley, & Urdan, 1996), for designing effective classroom interventions (Ames, 1992b; Meece & Miller, 1997), and for school reform efforts (Maehr & Midgley, 1991, 1996).

Achievement goal researchers maintain that individuals and learning environments can be characterized in terms of the perceived strength of different achievement goals. The present study examined three types of goal orientations identified in previous research with elementary, secondary, and college students (Duda & Nicholls, 1992; Harackiewicz, Barron, Tauer, Carter, & Elliot, 2000; Nicholls, 1989; Nicholls, Patashnick, & Nolen, 1985; Nolen, 1988; Nolen & Haldyna 1990a, 1990b; Thorkildsen & Nicholls, 1998). Two of the goals represent different forms of approach motivation. For the purposes of this study, *task-mastery goals* are defined as a desire to improve one's ability, to master a skill, and to understand learning material; whereas *performance goals* represent a desire to demonstrate high ability relative to others and to attain favorable judgements of one's abilities. These two goal constructs are conceptually similar to those referred to as task versus ego (Nicholls, 1984, 1989), learning versus performance (Dweck & Elliot, 1983), and mastery versus ability (Ames & Archer, 1988). Recently, researchers have called for a more refined definition of performance goals that distinguishes between demonstrating high ability and avoiding negative evaluations of ability (Elliot & Church, 1997; Elliot & Harackiewicz, 1996; Middleton & Midgley, 1997; Skaalvik, 1997). The present study used a measure of performance goals that focused on students' desire to attain positive evaluations of their ability (e.g., ''I wanted to do better on this assignment than other students'' and ''I wanted the teacher to think I was smart''), and it was assumed to assess approach motivation.

A third measure, *work-avoidant goals,* was included to measure avoidance tendencies. Work-avoidant goals represent a desire to complete academic tasks with a minimum of effort or to avoid doing the task altogether. This goal measure differs from recent conceptions of ability-avoidant goals (Midgley et al., 1998; Middleton & Midgley, 1997; Skaalvik, 1997) and performance-avoidant goals (Elliot & Church, 1997; Elliot & Harackiewicz, 1996). The work-avoidant goal measure used in the present study was developed on the basis of research by Nicholls and his colleagues (Duda & Nicholls, 1992; Meece et al., 1988; Nicholls, 1984; Nicholls et al., 1985; Nolen, 1988; Nolen & Haladyna, 1990a, 1990b; Thorkildsen & Nicholls, 1998), and it represented a desire to reduce effort or to avoid work.

Research has identified a number of affective and behavioral patterns that are ''set in motion'' by different motivational goals (Elliot & Dweck, 1988,

p. 11). Much of this research suggests that individuals show the most positive achievement patterns when they are focused on learning goals. Under these conditions, students prefer challenging activities (Ames & Archer, 1988; Elliot & Dweck, 1988), persist at difficult tasks (Elliot & Dweck, 1988; Stipek & Kowalski, 1989; Schunk, 1996), report high levels of interest and task involvement (Harackiewicz et al., 1998; Harackiewicz et al., 2000), and use cognitive strategies that enhance conceptual understanding and recall of information (Ames & Archer, 1988; Anderman & Young, 1994; Graham & Golan, 1991; Harackiewicz et al., 2000; Meece et al., 1988; Nolen, 1988; Nolen & Haladyna, 1990a, 1990b; Stipek & Gralinski, 1996; Wolters et al., 1996).

Relations of ego and performance goals to various outcomes are less consistent across studies. These inconsistencies are partly due to differences in participants' ages and to how ego or performance goals are defined across studies. While some researchers maintain that performance goals are not necessarily detrimental to achievement striving of college students (Harackiewcz & Elliot, 1993; Harackiewcz et al., 1998, 2000), studies with younger participants indicate that performance (ego) goals relate positively to self-reports of surface-level cognitive processes, such as rehearsal or memorizing strategies (Graham & Golan, 1991; Meece et al., 1998; Nolen, 1988; Stipek & Gralinski, 1996), and to self-reports of self-handicapping strategies (Midgley, Arunkumar, & Urdan, 1996; Urdan, Midgley, & Anderman, 1998). Similarly, studies indicate that work-avoidant goals are positively related to students' reported use of surface-level learning strategies (Meece et al., 1988; Nolen, 1988) and negatively related to subject matter interests (Meece et al., 1988), course grades (Meece, 1994; Harackiewicz et al., 2000), and standardized test scores (Meece et al., 1988).

One of the critical questions left unanswered by this research concerns the situational specificity and generality of students' motivational goals. Some studies focus on students' personal goals in school (Midgley et al., 1995; Nicholls et al., 1985; Roeser et al., 1996; Ryan, Hicks, & Midgley, 1997; Skaalvik, 1997), whereas other research focuses on students' goals in a particular classroom (Ames & Archer, 1988; Thorklidsen & Nicholls, 1998; Urdan et al., 1998) or in a subject area (Anderman & Midgley, 1997; Elliot & Church, 1997; Harackiewicz et al., 1998, 2000; Meece et al., 1988; Nicholls et al., 1989; Nolen, 1988; Schunk, 1996; Stipek & Gralinski, 1997; Wigfield & Guthrie, 1997; Wolters et al., 1996). Similarly, some researchers have argued that students' achievement goals are situation-specific because they are influenced by characteristics of the learning situation (Ames, 1992a; Ames & Archer, 1988; Elliot & Dweck, 1988; Jagacinski & Nicholls, 1984; Meece, 1991). However, other researchers report consistency in students' motivation goals across achievement domains (Duda & Nicholls, 1992; Stipek & Gralinski, 1996) and across school settings (Anderman & Midgley, 1997; Roeser et al., 1996). Thus, additional research is needed to examine the specificity and generality of students' achievement goals.

Purposes of Study

The present study uses a longitudinal design to examine patterns of temporal stability and change in elementary school students' motivation goals during the late elementary years (Grades 3 to 5). The specific objectives of the study were (a) to assess the consistency of different goal measures across learning activities and time, (b) to assess mean changes in different goal measures across time, (c) to examine ability and gender differences in patterns of change, and (d) to examine relations between changes in students' goal patterns and their self-reports of learning strategies.

The study focuses on students' goals for reading and writing activities in the classroom. We limited our investigation to this academic domain for several reasons. First, evidence suggests that children's motivation-related beliefs and perceptions tend to be differentiated according to achievement domains as early as kindergarten (Eccles, Wigfield, Harold, & Blumenfeld, 1993; Gottfried, 1990; Marsh, Craven, & Debus, 1991), and domain-specific measures of motivation tend to be more predictive of learning outcomes than are general measures (Assor & Connell, 1992; Eccles et al., 1993; Meece et al., 1988; Schunk, 1987; Wigfield, Eccles et al., 1997).

Additionally, most domain-specific assessments of students' goals have focused on mathematics and science. There are fewer longitudinal studies of students' motivational goals for reading and writing (Wigfield & Guthrie, 1997). Reading and writing activities involve complex cognitive activities and pose many developmental challenges for children. To become competent readers and writers, students must be willing to expend cognitive effort, to regulate attention and learning processes, and to persist when they experience difficulty. Thus, motivation factors play a critical role in the development of literacy skills in middle childhood and beyond (Guthrie, Wigfield, Metsala, & Cox, 1999; Wigfield & Guthrie, 1997). The present study was designed to assess changes in children's goals for reading and writing activities in the late elementary years, when children are making the transition to independent readers and writers.

The main objective of this study was to test the stability of students' goal orientations for reading and writing activities over time. We included three measures of goals from the Meece et al. (1988) study: task-mastery, performance, and work-avoidant.[1] The goal measures were modified to make them appropriate for reading and writing across the various grade levels studied (Grades 3 to 5). It is important to note that students' goal responses were assessed in terms of a specific learning assignment. It was assumed that this

[1] The Meece et al. (1988) study referred to this goal orientation as ego-social. In reexamining this goal definition, it appears to be more consistent with concepts of performance goals in the research literature (Ames, 1992; Ames & Archer, 1988; Butler, 1987, 1995; Elliot & Dweck, 1988; Harackiewicz et al., 1988; Kaplan & Midgley, 1997; Midgley, Anderman, & Hicks, 1995; Stipek & Gralinski, 1996); therefore, it was renamed in the present study.

item format would be appropriate for elementary school children. It was also assumed that this form of assessment would increase the variability of student's responses and thus decrease stability estimates. As described below, we assessed children's goals for reading and writing across a range of literacy activities. Because goals were assessed at the task-specific level, we tested for task differences in goal ratings before averaging scores across activities for longitudinal analyses. Earlier research (Blumenfeld & Meece, 1988; Meece et al., 1988; Miller & Meece, 1997) has documented few consistent task-related differences in students' goal orientations.

The consistency of students' goal orientations was assessed using the following procedures. First, we used confirmatory factor analysis (CFA) procedures to assess for the consistency of the factor structure that underlies students' goal beliefs. This step is necessary to establish that the factor structure of the goal measures used in this study were comparable across the grade levels tested (Eccles et al., 1993). Second, we performed a preliminary assessment of the consistency of students' goal responses across different types of learning activities examined in this study (simple and complex). Next we computed pairwise correlation coefficients to examine the consistency of goal ratings across time.

Following these analyses, we used multivariate analysis of variance (MANOVA) procedures with repeated measures to examine mean changes in students' goal ratings within the same grade level (fall to spring assessments) and between grade levels (spring to fall assessments) over the 3-year period of data collection. On the basis of prior research, we expected to find little change in students' goal responses within the school year, but significant changes across grade levels. This hypothesis is consistent with findings reported by Anderman and Midgley (1997), who reported that fifth- and sixth- grade students show greater stability in goal ratings within than across school years. We also expected to find negative changes in students' task-mastery goals across time. This prediction is consistent with research that has documented negative declines in motivation measures assessing the intrinsic value of reading (Eccles et al., 1993; Langer et al., 1990; McKenna et al., 1990). In addition, we expected to find increases in performance-oriented goals over the late elementary school years. This hypothesis is consistent with research suggesting that students tend to use more social comparison information to judge their abilities in late childhood (Eccles & Midgley, 1989) and to report stronger performance goals by early adolescence (Anderman & Midgley, 1997; Midgley, Anderman, & Hicks, 1995). The present study examines whether these developmental changes in students' motivation goals begin to occur in late childhood.

Another important purpose of this study was to examine individual differences in patterns of goal change. Specifically, we examined differences related to gender and ability differences. Previous research has reported ability

and gender differences in students' mean goal responses (Anderman & Midgley, 1997; Meece et al., 1988; Meece & Jones, 1996; Roeser et al., 1996; Ryan et al., 1997). However, only few studies have examined the influence of these individual characteristics on patterns of goal change. The present study assesses the degree to which goal change patterns vary by gender or by ability level.

If we find significant changes in students' goals across grade levels, additional analyses will be conducted to determine their relation to strategy-use patterns. For the purposes of these analyses, we focused on changes in students' task-mastery goals, which prior research has suggested is most predictive of self-regulatory processes in classroom settings (Meece et al., 1988; Nolen, 1988; Wolters et al., 1996). As reviewed above, a large number of studies have documented the positive influence of task-mastery goals on students' reported use of different learning strategies. On the basis of this research, we expected positive changes in students' task-mastery goals to be accompanied by increases in students' reported use of effortful learning strategies. Grade-related decreases in task-mastery goals are expected to be associated with lower levels of cognitive engagement. We included self-report measures to assess these hypothesized changes in strategy-use patterns. We also included a measure of academic ability in these analyses. Few studies to date have controlled for ability differences while examining relations between goal and strategy ratings.

To summarize, the present study was designed to test the following set of hypotheses related to students' goal orientations for reading and writing activities: (1) Stability coefficients are expected to be higher within the school year (fall-to-spring) than between grade levels (spring-to-fall). (2) Consistent with the above hypothesis, students are expected to show mean changes in goal responses as they progress in school. Overall, students are expected to show negative declines in the strength of task-mastery goals. These changes are expected to be accompanied by increases in performance goals. We also explore grade-related changes in work-avoidant goals, which have not been examined in prior investigations. (3) Grade level changes in task-mastery goals are expected to be accompanied by changes in students' strategy ratings. Specifically, positive changes in students' task mastery goals are expected to be associated with positive changes in students' reported use of effortful learning strategies, whereas decreases in task-mastery goals are expected to be associated with lower cognitive engagement in learning activities.

METHODS

Participants

The present study uses data from two different longitudinal cohorts of students. Cohort 1 included students ($n = 203$) in Grades 3, 4, and 5; and Cohort 2 included students ($n = 228$) in Grades 3 and 4. One year separated the data collection for the two cohorts. There were no

differences between the two cohorts in gender composition. The total sample included 211 girls and 240 boys. A majority of the children (85%) were from White, middle- or upper-middle-class families. However, the ability level of the sample was diverse. Students' standardized reading scores on the California Achievement Test (CAT) in third grade ranged from the 1st to 99th percentile, with half of the students achieving a national standard score at or above the 68th percentile. Cohort 1 students had slightly higher achievement scores than did Cohort 2 students ($M = 64.6$ and 62.4, respectively). Sample attrition rates were 35% for Cohort 1 over a 3-year period and 27% for Cohort 2 over a 2-year period.

The students attended a suburban school located near a major city in central North Carolina. The school included Grades 3 through 8, and it was known for its high academic standards in the local community. Grades 3 and 4 were located in a separate building, and lower and upper grade students arrived and departed on different schedules. The research design included nine different classes for Cohort 1 (three classes per grade level) and six different classes for Cohort 2 (three classes per grade level). The size of these classes ranged from 20 to 25 students, and teachers used heterogeneous ability grouping arrangements.

The teaching experience of the teachers varied from 2 to 16 years. All the teachers were White females. The teachers used a basal series (Alverman et al., 1991) as their primary reading instruction. This series included collections of stories centered on a theme with projects-based activities and isolated skill exercises. Teachers also used three to five novels yearly to supplement the basal instruction. The teachers differed in their approach to teaching language arts: Grades 4 and 5 teachers used a standard text for language arts, whereas Grade 3 teachers integrated their language arts instruction within reading activities. Informal interviews with teachers indicated that testing pressures were greater in the upper grades. End-of-year standardized tests were given at the end of every grade, beginning with the third grade. Students also completed a state-mandated writing test in the fourth grade. Therefore, fourth- and fifth-grade teachers tended to emphasize isolated skills covered in the tests.

Measures[2]

Achievement goals. We used three separate scales to assess students' motivation goals. These scales were comparable to those used by Meece et al. (1988) to study students' motivational goals in science classrooms, but were modified for language arts activities in the present study. The Task-Mastery Goal scale contained five items to assess students' focus on learning (e.g., ''I wanted to learn as much as possible'', ''I really wanted to understand the assignment'', and ''I wanted to learn something new''). The Performance Goal scale included five items to assess students' concerns about evaluation and their ability relative to others (e.g., ''I wanted others to think I am smart'', ''I wanted to do better than other students,'' and ''I wanted my parents to think I am smart''). The Work-Avoidant Goal scale consisted of five items to assess students' concerns with minimizing effort (e.g., ''I wanted to do as little as possible,'' ''I wished I didn't have to do this assignment'', and ''I just wanted to do what I had to do and to get it done''). Students rated each questionnaire item on a 4-point Likert scale ranging from *Not at all True* (1) to *Very True* (4). An average score was computed for each scale. As is discussed below, confirmatory factor analyses were used to test for a three-factor solution in the data.

A prior investigation (Meece et al., 1988) established the concurrent validity of these measures. Specifically, students' scores on the Task-Mastery Goal scale related positively to their scores on Harter's (1981) Scale of Intrinsic-Extrinsic Motivation in the Classroom ($r = .46$). As expected, scores on the Performance and Work-Avoidant scales were negatively related

[2] A complete set of questionnaires can be obtained from the first author.

to Harter's motivation scale (r's = −.20 and −.40, respectively). In addition, students' task-mastery goals were positively related to course grades and teachers' ratings of effort and ability, but performance and work-avoidant goals were negatively related to standardized achievement test scores, course grades, and teachers' ratings (Meece, 1994).

Strategy-use measures. We used two scales from the Meece et al. (1988) study to assess students' use of learning strategies in the classroom. As before, questionnaire items were modified for language arts activities. The Active Learning scale contained four items to assess students' reported use of learning strategies directed at understanding and mastering learning material. Example items include ''I went back over things I did not understand'' and ''I figured out how today's assignment was like one we had done before.'' In contrast, the Superficial Learning scale contained four items for assessing students use of strategies that minimize effort and thinking, such as ''I guessed a lot so I could finish quickly'' and ''I skipped the hard parts.'' Students rated each of these items on a 4-point scale ranging from *Not at all* (1) to *Very Much* (4). We averaged scores across items within each scale. Cronbach's α coefficients for the assessments used in this study ranged from .73 to .83 for the Active Learning scale and from .74 to .76 for Superficial Learning scale.

In an earlier study (Meece et al., 1988), these self-report measures were significantly related to students' motivation goals. A strong positive relation was found between students' scores on the Task-Mastery and Active Learning scales (r = .70), whereas Performance and Active Learning scores were only moderately related (r = .21). By contrast, students' scores on the Performance and Work-Avoidant scales were positively correlated with their reported use of superficial strategies (r's = .33 and .71, respectively). In addition, students' reported use of superficial learning strategies was negatively related (r = −.28) to standardized achievement scores. Relations between goal and strategy ratings for the present study are reported later.

Reading and language arts achievement scores. Students' total reading and language arts scores were obtained from the California Achievement Test (CAT), which is administered at the end of each year beginning with the third grade. The reading subtest at the third-grade level focuses on vocabulary and comprehension, whereas the language arts subtest focuses on writing mechanics and language expression. All items have a multiple-choice format. National percentile scores on the reading and language arts subtests were averaged and used as a measure for forming ability groups in this study. For analyses that assume a normal distribution of scores (e.g., ANOVA), percentile scores were transformed into normalized standard scores.

Data Collection Procedures

Surveys were administered to students whom we had received parental permission for their participation in the study. In the classes surveyed, we had parental permission for 90% of the students. Two types of learning activities were selected for data collection in the fall and spring of each year. These activities are commonly found in upper elementary classrooms. *Simple* assignments involved worksheets or exercise that required a simple response, such as circling the correct answer, filling in the blank, or writing single words or phrases. *Complex* assignments involved writing multiple paragraphs (e.g., essays or research reports). Additionally, *simple* assignments were generally completed independently within one lesson, whereas *complex* assignments involved peer collaboration and extended beyond one lesson. (For a detailed description of task coding procedures, see Miller & Meece, 1997.)

The student questionnaires were group-administered by the second author and a doctoral student in October and May of each school year. The questionnaire items were read aloud to the students in their classrooms, and two people were available to provide assistance when needed. Prior to administering the questionnaire, students were given sample items to practice using a Likert scale. For example, they were asked to rate how much they liked a particular flavor of ice cream and to discuss their responses. Throughout the administration, students were reminded to answer the questions in relation to the assignment they had just completed.

The assignment was held up for them to see. The total amount of time needed to complete the questionnaire was 25 minutes per administration. A graduate student returned to each classroom twice to ask any absent students to complete the questionnaire.

RESULTS

Consistency of Goal Ratings

Consistency of factor structures. Because the present study assessed longitudinal changes in students' motivation goals, it was important to examine the consistency of factor structures over time. We used Confirmatory Factor Analysis (CFA) to test for the three distinct types of motivation goals found in prior research (Meece et al., 1988). We then compared the fit of this model across different assignments (simple and complex) and different grade levels. On the basis of prior research, a three-factor model was evaluated for each combination of grade level and learning activity (simple vs complex).

As predicted, the results indicated that there were three distinctive goal orientations represented in the data set. The resulting items and fit indices are shown in Table 1 and Table 2, respectively. As can be seen, the descriptive indices show an acceptable level of fit for the overall model. Moreover, the hypothesized model appears to be invariant across the grade levels and learning tasks. It should be noted that the form of invariance examined in this study is the least restrictive type, and it should be distinguished from stricter types of invariance that require specified parameter estimates to be equal across groups.

Consistency of responses across learning activities. Because students' goals were assessed at the task-specific level, we performed a series of analyses to assess task differences in goal responses within the same academic semester. In the first analysis, we computed scale reliabilities for each goal and for each individual assessment. At the task level, reliability coefficients ranged from .49 to .88 for Task-Mastery Goals, from .44 to .82 for Performance Goals, and from .37 to .87 for Work-Avoidant Goals. Next we computed pairwise product–moment correlation coefficients between simple and complex tasks within the same academic semester (fall and spring) for each goal measure and grade level across the two cohorts. Due to low scale reliabilities for some goal assessments at the task level, we corrected correlations for attenuation when reliability estimates were below .80. Correlation coefficients ranged from .63 to .78 for Task-Mastery Goals, from .81 to .98 for Performance Goals, and from .60 to .96 for Work-Avoidant Goals. All correlations computed for this analysis were significant at the .001 level.

Next, we performed paired *t* tests to assess mean differences in goal ratings between simple and complex learning tasks across the two cohorts. This analysis included only those individual goal assessments with a scale reliability coefficient of .80 and above. After adjusting for inflated Type 1 error, only 2 of the 15 comparisons reached statistical significance ($p < .003$).

TABLE 1
Questionnaire Items Used in the Confirmatory Factor Analysis (CFA)

Task-Mastery Goal Orientation
- I really wanted to understand this assignment.
- I wanted to do better on this assignment than I have done before.
- I wanted to learn as much as possible.
- I wanted to understand this assignment so I worked as hard as I could.
- I wanted to learn something new on this assignment.

Performance Goal Orientation
- I wanted to do well on this assignment so my parents will think I am smart.
- I wanted to get a good grade on this assignment.
- I wanted the teacher to think I am doing a good job on this assignment.
- I wanted others to think I am smart.
- I wanted to do better on this assignment than other students.

Work-Avoidant Goal Orientation
- I wished I didn't have to do this assignment.
- I just wanted to do what I was supposed to do on this assignment and get it done.
- I wanted to do as little as possible on this assignment.
- I wanted to get out of having to do much work on this assignment.
- I wanted to do this assignment as easily as possible so I won't have to work very hard.

Active Learning Strategies
- I tried to figure out how today's assignment was like one we did before.
- I asked myself questions as I went along to make sure this assignment made sense.
- I tried to figure out the hard parts on my own.
- I went back over things I didn't understand on this assignment.

Superficial Learning Strategies
- I guessed a lot so I could finish quickly.
- I did my work on this assignment without thinking too hard.
- I skipped the hard parts
- I just did my work and hoped it was right.

TABLE 2
Fit Indices for Confirmatory Factor Analyses of Goal Measures by Grade and Task Difficulty Levels

Grade level	Task	χ^2	*df*	*p*	CI[a]	CFI[b]	Δ_2[c]
3rd Grade	Simple	141.11	62	.0001	.93	.94	.94
	Complex	192.55	62	.0001	.88	.93	.93
4th Grade	Simple	127.48	62	.0001	.90	.96	.96
	Complex	122.07	62	.0001	.91	.95	.94
5th Grade	Simple	116.07	62	.0001	.87	.92	.93
	Complex	112.79	62	.0001	.88	.95	.95

[a] CI = Centrality Index.
[b] CFI = Comparative Fit Index.
[c] Δ_2 = Delta 2.

Third graders reported a stronger task mastery orientation for *complex* ($M = 3.51$, $SD = .60$) than for *simple* ($M = 3.01$, $SD = .65$) assignments in the spring assessment ($t = 3.46$, $df = 382$, $p < .001$). Also, third graders reported a stronger performance orientation for *complex* ($M = 3.51$, $SD = .60$) than for *simple* ($M = 3.41$, $SD = .65$) tasks in the spring assessment ($t = 3.46$, $df = 382$, $p < .001$). No other significant task differences emerged.

The above analyses revealed few differences in students' goal ratings at the task level. Those differences were limited to two goal measures and to one grade level assessment (spring of Grade 3). Task differences were not replicated across grade levels or across assessments within the same grade level. Because we were primarily interested in the temporal stability of students' domain-specific goal ratings, we averaged students' scores across simple and complex tasks within the same academic semester to create composite scores. We then recomputed scale reliabilities for the aggregated goal scales, and all scale reliabilities were above .79 when goal items were aggregated across simple and complex tasks for each data collection point (i.e., fall and spring). Reliability estimates for the goal measures used in subsequent analyses are presented in Table 3.

Temporal stability of goal ratings. As a preliminary estimate of the longitudinal stability, we computed pairwise product–moment correlations for all possible comparisons of the same goal measure across time. The results are shown in Table 4. Overall, 46% of the 45 correlation coefficients were above .50, and all but one were significant at the .01 level. When correlation coefficients are averaged across the 15 assessments, the mean correlation is .44 for Task-Mastery Goals, .58 for Performance Goals, and .45 for Work-Avoidant Goals. Correlation coefficients for assessments collected within the same grade level (fall and spring) ranged from .45 to .65, and all were significant at the .001 level. Assessments between grade levels (e.g., spring Grade 3

TABLE 3
Reliability Coefficients for Goal Ratings: Grade 3 to 5

	N	Task-Mastery Goals	Performance Goals	Work-Avoidant Goals
Grade 3				
Fall	355	.79	.85	.84
Spring	375	.88	.87	.86
Grade 4				
Fall	262	.87	.88	.87
Spring	248	.83	.89	.81
Grade 5				
Fall	133	.85	.90	.88
Spring	132	.96	.88	.89

TABLE 4
Intercorrelations of Goal Ratings across Time Comparisons

Time span	Task-Mastery Goals	Performance Goals	Work-Avoidant Goals
Fall 3–Spr 3 (n = 385)	.45	.63	.53
Fall 3–Fall 4 (n = 271)	.39	.48	.38
Fall 3–Spr 4 (n = 252)	.27	.48	.26
Fall 3–Fall 5 (n = 141)	.25	.44	.39
Fall 3–Spr 5 (n = 132)	.17	.46	.27
Spr 3–Fall 4 (n = 276)	.60	.59	.56
Spr 3–Spr 4 (n 256)	.44	.59	.38
Spr 3–Fall 5 (n = 141)	.40	.66	.46
Spr 3–Spr 5 (n = 132)	.27	.53	.39
Fall 4–Spr 4 (n = 260)	.58	.65	.54
Fall 4–Fall 5 (n = 93)	.47	.60	.58
Fall 4–Spr 5 (n = 88)	.44	.61	.46
Spr 4–Fall 5 (n = 91)	.51	.73	.53
Spr 4–Spr 5 (n = 87)	.30	.60	.33
Fall 5–Spr 5 (n = 133)	.62	.65	.65

Note. Correlations above .25 were significant at the .01 level.

and fall Grade 4) were also significantly correlated, with r's ranging from .51 to .73.

The stability of behavioral assessments is influenced by the number of assessments that are used to estimate the average intercorrelation, as well as the reliability of the measures used. Mischel and Peake (1982) suggest using a formula to calculate consistency coefficients that adjusts the average intercorrelation among measures of the same construct for the number of observations that were used in its calculation. The procedure is analogous to computing the internal consistency of a scale whereby the average intercorrelation among scale items is adjusted for the number of items in the scale. We calcu-

lated consistency coefficients for the two cohorts separately due to differences in the number of goal assessments across time. Coefficients for Cohorts 1 and 2, respectively, were .78 and .79 for Task-Mastery Goals, .86 and .88 for Performance Goals, and .79 and .81 for Work-Avoidant Goals. Coefficients of this magnitude indicate a reasonable degree of stability in assessments across time (see Mischel & Peake, 1982).

Longitudinal Changes in Students' Goal Ratings

Table 5 shows means and standard deviations on the goal measures used in the longitudinal analyses by cohort group. As described earlier, attrition rates were 35% for Cohort 1 over a 3-year period and 27% for Cohort 2 over a 2-year period. Prior to the longitudinal analyses, we compared Grade 3 measures of students with complete versus missing data across the 2- or 3-year period to establish the comparability of the samples. For Cohort 1, with an attrition rate of 35%, there were no significant differences in Grade 3 standardized achievement scores or goal ratings between students with complete or with missing data across the 3-year period. For Cohort 2, only one significant difference was found ($t = -2.91$, $df = 290$, $p < .01$) over the 2-year period: Students with complete data had higher achievement test scores ($M = 108$, $SD = 13.62$) than did students with incomplete data ($M = 102$, $SD = 15.37$).

Overall changes. Longitudinal changes in students' goal ratings were examined using a Multivariate Analysis of Variance (MANOVA) for repeated measures. Analyses were performed by cohort for two reasons. First, the

TABLE 5
Descriptive Statistics for Goal Measures by Cohort Group: Grades 3 to 5

	Fall 3		Spring 3		Fall 4		Spring 4		Fall 5		Spring 5	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Task-Mastery Goals												
Cohort 1	3.55	.47	3.38	.62	3.39	.55	3.13	.70	3.34	.54	3.21	.67
n	202		194		113		107		142		133	
Cohort 2	3.62	.40	3.55	.48	3.57	.48	3.47	.55	—	—	—	—
n	210		207		168		153					
Performance Goals												
Cohort 1	3.39	.60	3.03	.79	3.02	.81	2.89	.77	2.99	.76	2.87	.89
n	202		194		112		107		142		133	
Cohort 2	3.45	.55	3.28	.69	3.15	.67	3.07	.76				
n	210		207		168		153					
Work-Avoidant Goals												
Cohort 1	2.15	.82	1.97	.80	1.86	.79	2.28	.85	2.12	.73	2.19	.76
n	202		194		113		107		142		133	
Cohort 2	2.11	.81	1.92	.76	1.89	.74	1.92	.77				
n	210		207		168		153					

Note. All scores are based on a 4-point scale.

TABLE 6
Results of MANOVA for Time-of-Measurement-Effects on Achievement Goals

	Wilk's Λ	*F*	*df*	*p* value	η^2
Cohort 1 ($n = 87$)					
Task-Mastery	.79	4.45	5	.001	.21
Performance	.66	8.43	5	.001	.34
Work-Avoidant	.71	6.62	5	.001	.28
Cohort 2 ($n = 141$)					
Task-Mastery	.90	4.81	3	.01	.10
Performance	.70	19.83	3	.001	.30
Work-Avoidant	.89	5.72	3	.001	.11

cohorts differed in terms of the number of goal assessments, and complete data is required for a repeated-measures MANOVA. Second, separate analyses provide an opportunity to replicate trends in the data across more than one sample.

This first set of analyses focused on overall patterns of change. Individual differences in change patterns related to ability level and gender are described in later sections. Thus, all MANOVAs reported here have one within-subject factor: time of measurement. There were six assessments per goal in Cohort 1 (Grades 3 to 5) and four assessments per goal in Cohort 2 (Grades 3 and 4). Post hoc tests for repeated measures were used to compare specific means when multivariate tests for time of measurement were significant. Due to the possible number of contrasts, Bonferroni tests were used to adjust for inflated Type I error.

Table 6 presents results from the MANOVA analyses that examined time-of-measurement effects. As shown here, results revealed significant time-of-measurement effects for all three goal measures and for both Cohort 1 and Cohort 2. However, as shown in Fig. 1, trends in the data were not consistent across goal measures and cohorts. Post hoc tests for repeated measures were performed to identify the direction of change and the significant points of change in the data, after adjusting for multiple contrasts.

It was hypothesized that the strength of students' task-mastery goals would decline over time. The results show a significant negative change from the beginning of Grade 3 to the end of Grade 4 for Cohort 1 (effect size = .71, $p < .002$)[3] and for Cohort 2 (effect size = .34, $p < .001$). The data further reveal that the largest negative change occurred within Grade 4 (fall to spring

[3] Effect sizes were computed using a formula provided by Cohen (1988). Mean differences beween scores were divided by the pooled standard deviation for the scores. Effect sizes of .20 to .40 are below are considered moderate in magnitude, whereas effect sizes of .60 and above are considered large.

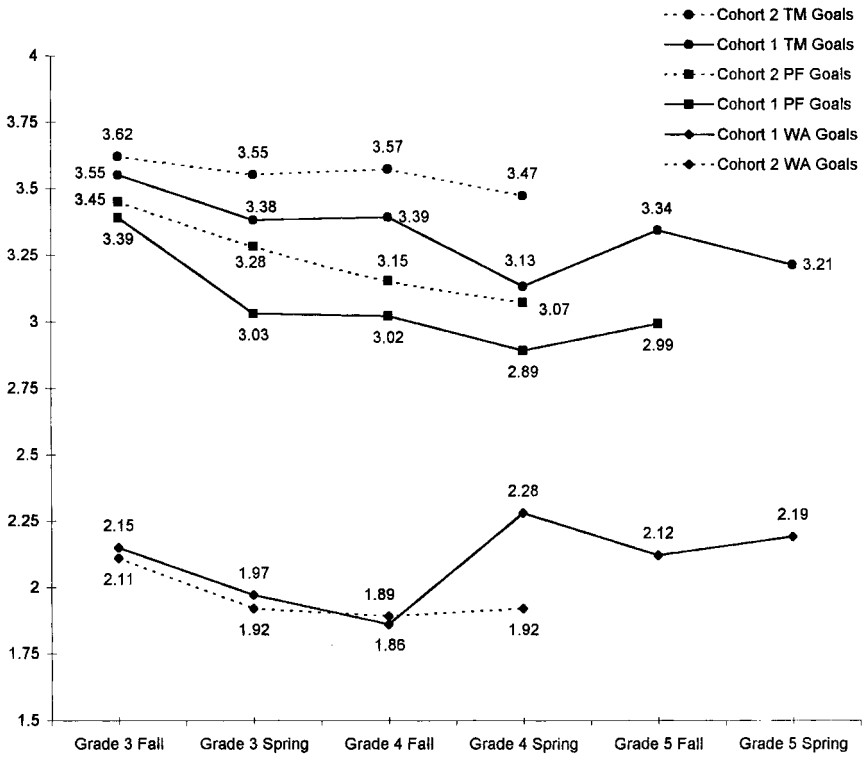

FIG. 1. Grade level mean scores on goal scales (Grade 3 to 5) by Cohort.

assessments) for Cohort 1 (effect size = .42, $p < .004$) and for Cohort 2 (effect size = .21, $p < .002$). There were no significant changes within Grade 3 or between Grades 3 and 4 (spring to fall assessments). In Cohort 1, there was a significant increase in students' task-mastery scores between Grades 4 and 5 (effect size = .42, $p < .004$). Thus, declines in task-mastery scores did not continue into Grade 5.

It was hypothesized that students would report increases in their performance goals over time. As shown in Fig. 1, the data do not support this hypothesis. For both Cohort 1 and Cohort 2, there were negative changes in students' performance goals between the first and last assessments (effect sizes = .69 and .58, respectively; p's $< .001$). Additionally, for both cohorts the largest negative change occurred within Grade 3 (effect sizes = .52 for Cohort 1 and .27 for Cohort 2, p's $< .001$). There were no other significant within- or between-grade changes in performance goals.

The patterns of changes in students' work-avoidant goals were less consistent across time and cohorts. In Cohort 1, there was a small decline in stu-

dents' work-avoidant scores in Grade 3 (effect size = .22, $p < .02$) and then a sharp increase in work-avoidant scores within Grade 4 (effect size = .51, $p < .001$) and no significant change following Grade 4. For Cohort 2, there was a decrease in work-avoidant scores within Grade 3 (effect size = .24, $p < .001$) and no significant changes in goal ratings following Grade 3.

In summary, the results of these analyses revealed several mean-level changes in students' goal ratings over time. As predicted there were negative changes in students' task-mastery goals, but this trend did not continue through Grade 5 for Cohort 1. Contrary to the hypotheses guiding this study, there were decreases in students' performance goals over time. There were also interesting mean changes in students' work-avoidant goals, but no clear trends in the data. The data also suggest that changes in goal ratings were occurring within the school year rather than between spring and fall assessments.

Gender differences in change patterns. The results of the MANOVA analyses with repeated measures for each cohort revealed that changes in students' achievement goals were consistent for girls and boys. A multivariate gender effect was found for the Work-Avoidant Goal scale, but for Cohort 1 students only. One-way ANOVAs of Cohort 1 data revealed significant differences at all time points, except spring of Grade 4. In each case, boys rated their work-avoidant goals higher than did girls. Means ranged from 1.68 to 2.16 for girls and from 2.10 to 2.45 for boys. Gender effect sizes ranged from .20 to .60.

Ability differences in change patterns. To examine ability differences in change patterns, we formed three ability groups based on students' combined national percentile scores on the reading and language arts subtests of the California Achievement Test (CAT). Test scores were available for 90% of the students. Students in the high ability group ($n = 114$) had test scores about the 85th percentile. The average ability group ($n = 165$) included students with scores between the 50th and 85th percentiles, and students with scores below the 50th percentile formed the low ability group ($n = 114$). The same cutoff scores were used to form ability groups in both cohorts.

The results revealed main effects for ability on two goal scales in Cohort 2 only. There were significant ability-level differences in students' performance goals ($F = 10.43$, $MS = 11.27$, $df = 2, 137$, $p < .001$) and in their work-avoidant goals ($F = 11.43$, $MS = 14.00$, $df = 2, 137$, $p < .001$). Post hoc comparisons of overall group means revealed that students in the lowest ability group had significantly higher performance goal scores than did students in the average and high achieving groups. A similar pattern was found for work-avoidant goals. In both cohorts, there were no ability $\times$ time interaction effects for any of the goal scales. Therefore, the overall time of measurement trends in students' goal orientations described earlier were consistent across the ability levels examined in this study.

Relations between Task-Mastery Goals and Strategy Ratings

This last set of analyses examined relations among longitudinal changes in students' task-mastery goals and strategy ratings. Because both Cohort 1 and Cohort 2 students showed significant decreasing linear trends in their task-mastery goal ratings, we combined the two samples to increase sample size and focused on changes between fall scores in Grade 3 and spring scores in Grade 4. Before performing these analyses, we examined correlations among students' goal and strategy ratings across time. Task-Mastery Goal ratings were positively related to students' reported use of active learning strategies (r's = .27 to .72) and were negatively related to their reported use of superficial learning strategies (r's = −.10 to −.45). Table 7 shows the descriptive statistics for the strategy ratings.

On the basis of previous research, we expected changes in students' task-mastery goals to be accompanied by significant changes in strategy ratings. Hierarchical regression analyses were used to assess the degree to which changes in students' task-mastery goals from Grade 3 (fall) to Grade 4 (spring) explained variations strategy ratings at the end of Grade 4, not explained by Grade 3 achievement level (composite score for Reading and Language Arts subtests of the CAT) and prior assessments of the same strategy measure. In these analyses, changes in task-mastery scores were represented as unstandardized residual scores computed by regressing spring Grade 4 task-mastery scores on fall Grade 3 task-mastery scores. By using residual scores as the measure of change, problems with regression to the mean are reduced (Cohen & Cohen, 1983). As shown in Table 8, the results revealed that changes in task-mastery ratings (unstandardized residual scores) explained additional variance in Active Learning scores (R^2 change = .46, $p < .001$) and in Superficial Learning scores (R^2 change =.15; $p < .001$), not explained by achievement level or by prior assessments of the same measure.

TABLE 7
Descriptive Statistics on Competency and Strategy Ratings (N = 243)

			Product–moment correlations	
	M	*SD*	TMG 3 (Fall)	TMG 4 (Spring)
Active Strategies (ALS)				
Grade 3 Fall	3.23	.52	.51**	.35**
Grade 4 Spring	2.90	.69	.23**	.48**
Superficial Strategies (SLS)				
Grade 3 Fall	1.73	.57	−.15*	.10
Grade 4 Spring	1.70	.69	−.13*	−.36

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

TABLE 8
Relations between Changes in TM Scores and Strategy Ratings

	B	*SE B*	β	Adjusted R^2	*F*	ΔR^2
Active Learning Strategies						
Achievement Score	−.003	.002	−.14	.02	.06	
Active Learning Score	.45	.08	.34	.13	19.14	.11***
Change in TM Score	.78	.05	.70	.59	117.76	.46***
Superficial Learning Strategies						
Achievement Score	−.003	.001	−.26	.07	13.30	
Superficial Learning Score	.16	.06	.19	.09	13.49	.03**
Change in TM Score	−.37	.05	−.39	.24	27.21	.15***

** $p < .01$.
*** $p < .001$.

DISCUSSION

The major purpose of this study was to examine the temporal stability of students' motivational goals across the late elementary years. To control for subject matter differences, we limited our investigation to students' goals (task-mastery, performance, and work-avoidant) related to reading and writing activities in the classroom. The results of this study make several significant contributions to existing research. First, we found both stability and change in students' domain-specific goal orientations over time. The data suggest that most of the changes in goal responses occur within the school year. We also found that mean-level changes in students' goals were consistent across gender and ability groups. Last, we found that changes in students' task-mastery orientations predicted patterns of change in strategy ratings.

Temporal Stability of Students' Goal Responses

One of the critical issues this study addressed was the temporal stability of students' motivational goals. In this study, goals were initially measured at the task-specific level, and this form of assessment was expected to increase the variability of students' responses. However, the findings indicated that there was a reasonable degree of stability in students' goal ratings. First, the data revealed few consistent mean task differences in students' goal ratings. Additionally, correlation coefficients within and between school years ranged from .45 to .73, and all but one of the 45 autocorrelations computed were significant at the .01 level. When the average intercorrelations for each goal scale were adjusted for the number of observations included in that composite, consistency coefficients ranged from .78 to .88. If interpreted in terms of scale reliabilities, the stability coefficients indicate a reasonable degree of internal consistency of students' responses across time.

These correlational findings support other goal studies revealing a moderate degree of stability in students' goals across various time intervals (Roeser et al., 1996; Schunk, 1996; Schunk & Swartz, 1993; Stipek & Gralinski, 1996), learning activities (Meece et al., 1988), and achievement domains (Duda & Nicholls, 1992). In general, these studies report stability coefficients in the range of .40 to .70 for personal and domain specific goals. Seventy percent of the intercorrelations computed for the present study were within this range.

Longitudinal Changes in Goal Responses

Although students' goal orientations show a reasonable degree of temporal stability, there were also significant mean-level changes in the strength of goal ratings over time. These changes help to explain the lower autocorrelations when more than 1 year separated the assessments. Other studies have also reported both stability and change in students motivational responses over time intervals (Anderman & Midgley, 1997; Eccles et al., 1989; Wigfield et al., 1991).

There were several hypotheses guiding our longitudinal analyses. On the basis of prior research (Eccles et al., 1993; Languer et al., 1990; McKenna et al., 1990), we expected to find negative changes in students' task-mastery goals over time. Consistent with this hypothesis, there were significant decreases in students' task-mastery ratings by the end of the fourth grade in both cohorts. For Cohort 1, the decline was quite large in magnitude (effect size = .71), but this decline did not continue into Grade 5 for Cohort 1. In fact, students showed an increase in their task-mastery goals by the fall assessment in fifth grade. Thus, the findings provide only partial support for the predicted negative trends in task-mastery goals.

The negative changes in students' performance goals were unexpected. It is generally assumed that the declines in task-mastery goals result from increases in students' concerns about evaluation, social comparison, and competition (Eccles & Midgley, 1984; Harter et al., 1992; Midgley et al., 1995). We did not find significant grade-related increases in students' desire to compete with others for high grades or for social approval (i.e., performance goals). For our sample of students, performance goals declined over time. The fact that the strength task-mastery and performance goals were both decreasing, at least through fourth grade, provides further evidence that these motivational constructs are not inversely related nor opposite ends of a bipolar continuum (Meece & Holt, 1993; Thorklidsen & Nicholls, 1998). Research has shown that these two goal orientations are either unrelated or positively correlated (Harackiewicz et al., 1998).

The findings for work-avoidant goals were less consistent and depended on grade level and cohort. Interestingly, third graders in both cohorts showed declines in their work-avoidant goals between the fall and spring assessments

of Grade 3. However, fourth graders in Cohort 1 reported significant increases in their work-avoidant goals between the fall and spring assessments. It is also important to note that work-avoidant scores were relatively lower than the other two goal scores at each data point. Thus, for the grade levels sampled, students demonstrated a relatively stronger motivation to approach than to avoid literacy activities. These findings indicate the importance of including measures of both approach and avoidance goals in research on motivation (see also Elliot & Church, 1997; Elliot & Harackiewicz, 1996; Middleton & Midgley, 1997; Meece et al., 1988; Nicholls et al., 1985; Nolen, 1988; Skaalvik, 1997; Wigfield & Guthrie, 1997).

Contrary to prediction, there were few significant changes in students' goal orientations as they make the transition into a new grade level. There was only one between-grade effect. These results suggest that changes in students' goal responses were largely occurring between fall and spring of the same school year. Although studies have examined within-year correlations between students' goal ratings (Meece et al., 1988; Stipek & Gralinski, 1996; Wolters et al., 1996), we know of no other study that has examined mean changes in students' motivational goals within the same school year. However, studies report similar findings for other motivational constructs. For example, Eccles and her colleagues (1989) reported significant within-year declines in the importance seventh-grade students attach to doing well in mathematics, but the perceived importance of doing well in English increased over the school year. Similarly, Wigfield et al. (1991) reported significant within-year declines of sixth- and seventh-grade students' liking of mathematics, but their liking of English showed significant within-year increases. Also, Ames (1992) found significant within-year declines in students' intrinsic motivation and perceived competence. Taken together, these findings stress the importance of obtaining multiple assessments of motivational variables during the school year. Results based on single assessments may be misleading in terms of when changes in motivation occur.

The results of this study indicated that changes in students' motivational goals were consistent across gender and ability groups. This finding is noteworthy because it suggests that particular subgroups of students (e.g., girls or low achievers) are not responding differently to their classroom environments. The findings are consistent with Anderman and Midgley's (1997) study in which they reported no subgroup differences in students' goal changes as they moved from elementary to middle school.

In addition, the findings on subgroup differences partially confirm studies documenting mean differences for gender or ability in students' goal ratings. In terms of gender differences, several studies suggest that girls may value and enjoy reading activities more than boys in elementary school (Eccles et al., 1993; Wigfield & Guthrie, 1995; McKenna et al., 1990). The present study revealed no gender differences in students' desire to learn and to master

literacy activities (i.e., task-mastery goals). However, consistent with previous research, boys did report a stronger work-avoidant orientation than did girls. That is, boys are reporting a desire to reduce their effort and engagement in literacy activities.

Ability level differences in students' mean goal ratings were confined to one cohort. Consistent with earlier research (Meece et al., 1988; Meece, 1994), lower achieving students had higher scores on the performance and work-avoidant scales. It is not surprising that lower achieving students express greater concerns about their ability to perform well and report stronger avoidance tendencies than do high ability students. However, these findings are contrary to the suggestion that performance goals are positively related to academic performance, a finding that has been reported for college-age students (Harackiewicz et al., 1998, 2000).

Relations between Task-Mastery Goals and Strategy Ratings

Another important contribution of the present study concerns the relations between changes in students' task-mastery goals and strategy ratings. The findings indicated that changes in task-mastery goals were predictive of changes in students' self-reports of strategy use. As Table 8 indicates, grade level changes were more pronounced for self-reports of active learning strategies. Thus changes in students' task-mastery goals have implications for the degree to which students use learning strategies that are going to improve their reading and writing competencies. Other studies have reported a ''fourth grade'' slump in students' achievement in reading (Chall, Jacobs, & Baldwin, 1990). Most longitudinal studies of literacy development, however, have not included motivational measures to help explain these developmental trends. The present study emphasizes the need for additional longitudinal studies that examine relations between motivation and cognitive processes in the development of literacy skills (Wigfield, 1997).

Implications for Future Research

The present study has important implications for future research. First, the data shed light on the specificity of students' achievement goals. Results indicate that goals assessed at the task level may be less reliable than measures at the domain level (i.e., goals for reading, mathematics, or sports). Low scale reliabilities may explain why it is difficult to detect task differences in goal responses. Second, as discussed, the data emphasize the need to collect multiple assessments of students' motivation responses in order to detect when changes occur. The current study revealed few changes in students' achievement goals between grade levels. Instead, most changes occurred during the school year. Such findings provide strong evidence that age-related changes in motivation are the result of schooling experiences.

Additional studies contrasting motivational changes within and between school years are needed to confirm this pattern.

Also, longitudinal studies to date have focused on the negative changes in students' motivation that occur in the early adolescent years, as students make the transition from elementary to middle school (Anderman & Midgley, 1997; Eccles et al., 1989, 1993; Harter et al., 1992; Midgley et al., 1995; Roeser & Eccles, 1998; Roeser et al., 1996). Findings from the present study suggest that some of these negative changes begin to take place in the transition from primary to intermediate grades, when students are expected to become independent learners. Therefore, additional research is needed to examine patterns of motivation change in the elementary years (see also Stipek & Daniels, 1988).

The present study has several limitations that need to be considered in future research. Most importantly, information on grade-level changes in the classroom environment were not included in the present study. These data are needed to explain the patterns of motivation changes described in this study. As stated, the major focus of our investigation was to assess stability and change in students' goal orientations in the late elementary school years. Our objectives were similar to other longitudinal studies that examined stability and change in motivation-related constructs (Eccles et al., 1989, 1993; Wigfield et al., 1991, 1997). However, school transition studies have reported links between students' classroom perceptions and their achievement goals (Anderman & Midgley, 1997; Midgley et al., 1995; Roeser et al., 1996). Our findings suggest that it is equally important to assess changes in the classroom environment within the school year.

A couple of other issues need further attention. First, the data were collected in one school, which may limit the generalizability of the findings to other school contexts. Additionally, the study focused on the temporal stability of students' goal orientations in one academic domain. Future studies need to examine how students' goal beliefs are organized across and within different academic domains (Eccles et al., 1997). Last, the study is based on self-report data. Although goal ratings are related to objective measures of academic achievement (Meece, 1994), the findings of this study would be strengthened by the inclusion of other behavioral measures.

Conclusion

What does this study contribute with regard to the specificity and generality of students' goal orientations? In this study, motivation goals were measured at a task-specific level within one achievement domain—language arts. Despite the specificity of the measure used, a majority of the stability coefficients computed were within the same range as other researchers have reported for goals measured at a more general level (see, for example, Anderman & Midgley, 1997; Duda & Nicholls, 1992; Wolters et al., 1996; Stipek &

Gralinski, 1996). These data suggest that students' goal responses are not simply responses to a specific learning situation. However, our data also point out that a particular goal rating was less predictive of future ratings on that scale as the time interval between assessments increased. Additionally, the longitudinal analyses indicated that there were significant fluctuations in the strength of students' goals for literacy activities over time. The important contribution of this study was to show that most changes in students' goals occurred within the school year rather than at the transition to a new grade level or to a new learning environment.

In conclusion, the data suggest that students' motivational goals are not trait-like in nature, at least for the age groups we assessed. It is best to view students' motivational goals from an interactional perspective. Research suggests that children begin to develop fairly stable conceptions of their abilities in late childhood (Eccles et al., 1998), and these conceptions of the self may give coherence to how students experience and interpret changes in learning contexts (Eccles et al., 1983; Grolnick & Ryan, 1987; Harter et al., 1992; Meece et al., 1988; Roeser & Eccles, 1998; Stipek & Gralinski, 1996; Thorklidsen & Nicholls, 1998). Additional research is needed to examine the individual and contextual factors that enable students to more fully develop their reading and writing competencies.

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