

# **The Transition to High School Study**

**Report to Participating Schools and Districts**

**Winter, 2000**

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Since the fall of 1994, we have been conducting a research study in four Michigan school districts aimed at understanding how the learning environment is related to the motivation and achievement of young adolescents. We have observed classrooms, given surveys to students and teachers, interviewed students and their parents, and collected information from school records. We began this study when the participating students were in the fifth grade in elementary school, and we collected data from these same students for the eighth time when they were in the ninth grade in high school (spring of 1999). Approximately 800 students participated in this study.

This report serves as a supplement to the *Michigan Middle School Study: Report to Participating Schools and Districts* that we distributed last year. If you did not receive a copy of that report, and would like one, please contact us and we will send it to you by return mail. That report covered the first four years of our study, focusing in particular on the transition from elementary to middle school. The current report focuses in particular on the middle school years and the transition to high school.

As we did in the earlier report, we combine the data from all the districts and schools that are participating in the study. We have found that the school districts participating in this study are quite similar in terms of their goals and the reforms that have been undertaken. However, as we did last year, we will report to individual districts any differences that emerge in the data that we think would be of interest to them.

We begin with the information provided by students, looking at changes from sixth grade in middle school to ninth grade in high school. We describe the relation between students' perceptions of the learning environment and a number of educationally relevant beliefs and behaviors. In addition, we describe the relation between students' perceptions of changes in the learning environment when they move from middle to high school, and changes in their beliefs and behaviors. In the final section we describe some of the findings that emerged from data collected from elementary, middle, and high school teachers.

## Changes in Grade Point Average from Sixth Grade in Middle School to Ninth Grade in High School

We looked at the participating students' grade point average (GPA) as they moved from sixth grade in middle school to ninth grade in high school. We found that students' grade point averages declined significantly as they moved through middle school and into high school. Figure 1 shows this decline for girls and boys, and Figure 2 compares the decline for White, African American, and Hispanic students.

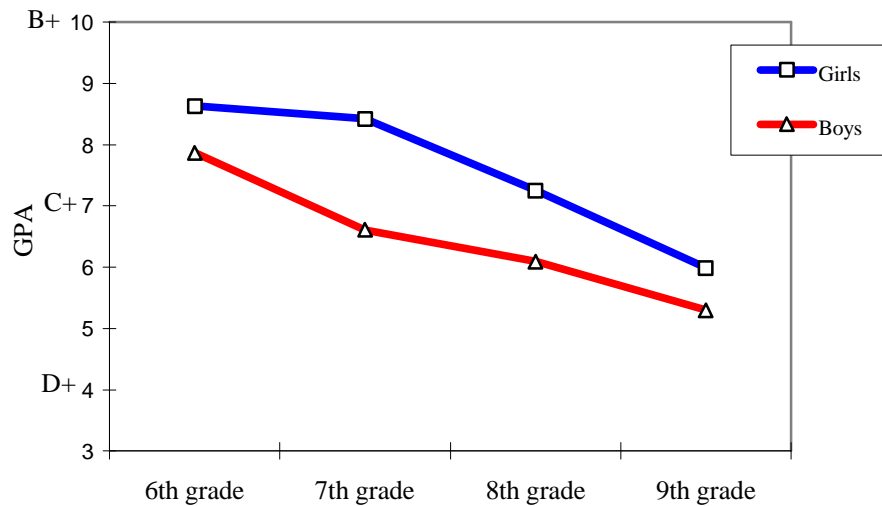


Figure 1. Change in GPA for girls and boys from sixth through ninth grades

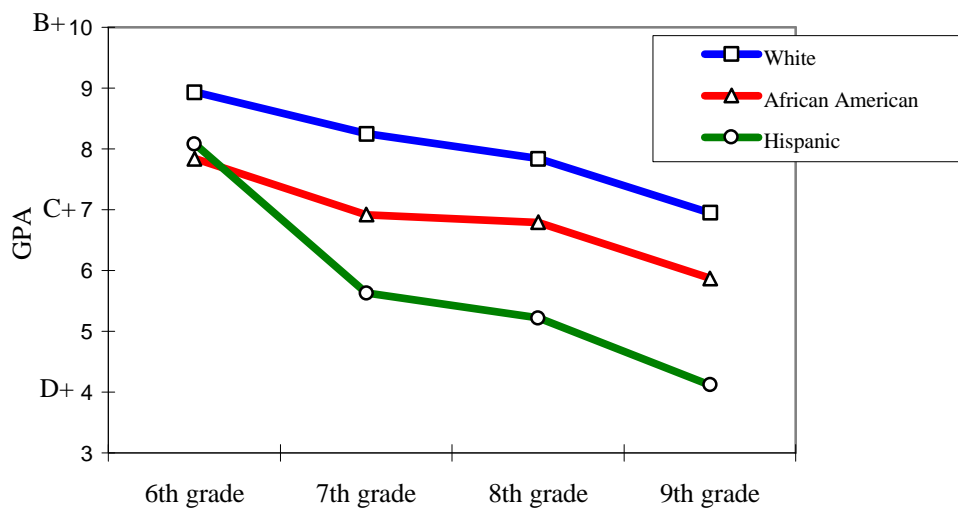


Figure 2. Change in GPA for White, African American, and Hispanic students from sixth through ninth grades

The decline in grades for the Hispanic students in our study is particularly troublesome. Since our study began in 1994, 32 Hispanic students have participated in one or more of the annual surveys, largely from one district. During the five years of the study, some of the Hispanic students dropped out of the sample temporarily but returned later. For this reason, we have complete GPA data across all years of the study for only 20 of these students, and combined GPA and survey data for even fewer. With this very small sample of Hispanic students, it is risky to generalize to all Hispanic students in the districts, and of course, there is variation within ethnic groups in achievement (e.g., not all white students are receiving B grades). However, the trend in the data presented here suggests that the decline in academic achievement is a problem overall, and that school districts may need to pay special attention to the educational needs of their Hispanic students.

Our data also document the achievement gap between White and African American students. In our previous report we discussed our findings that African American students seem, on average, to have positive motivational profiles. This makes the achievement gap particularly puzzling. Many school districts are taking steps to try to understand and close the achievement gap. Recent reports suggest that when students have access to high quality content and teaching, they learn. Although recommended by the National Commission on Excellence in Education sixteen years ago, only 13% of high school graduates nationwide have completed four years of English; three years each of math, science, and social studies; two years of a foreign language, and a half year of computer science. Despite these recommendations, minority students on average take fewer math, science, and foreign language courses than do their white peers. In another study examining the factors that contribute to receiving a college degree, the most important factor was the quality of the high school curriculum a student has taken. This was more important than test scores, class rank, or grade-point average. For example, finishing a course beyond the level of algebra (e.g., trigonometry or pre-calculus) more than doubles the odds that a person who enters postsecondary education will complete a bachelor's degree. The report (compiled by the College Board's National Task Force on Minority High Achievement) points to the debilitating effect of failing to include minority students in demanding college-preparatory courses in high school.

The data in our study are limited to the students who were given permission by their parent(s) or guardian to participate in our study. We do not have students' grades beyond the ninth grade or course-taking information for all districts. However, school districts do have information on grades, specific course-taking, and drop-out rates. Districts can look at these trends across time for students of different ethnic backgrounds. Most school districts also have information about the percent of students of different ethnic backgrounds in various courses (remedial, core, and advanced). The district administrators with whom we have spoken are very concerned about the achievement gap between White, African American, and Hispanic students and have indicated that they welcome the involvement of parents and community members in their search for ways to address this serious problem.

#### Changes in the Learning Environment from Sixth Grade in Middle School to Ninth Grade in High School

Many studies have found that students' perceptions of the learning environment in their classrooms and schools are related to their motivation and performance in school. When students in our study were in the fifth grade, they were asked about *school in general* because in elementary school they stay with one teacher for most of the day. As students move through middle school and high school, they may have as many as five, six, or seven different teachers during a day. Therefore, it is sometimes difficult for secondary students to report their perceptions and beliefs about school "in general." For this reason, we decided to ask middle and high school students about one class, and we chose mathematics. We are not evaluating mathematics, per se. In fact, based on previous research and our experiences in classrooms we believe that the trends and relationships that we report based on mathematics are very similar across other disciplines.

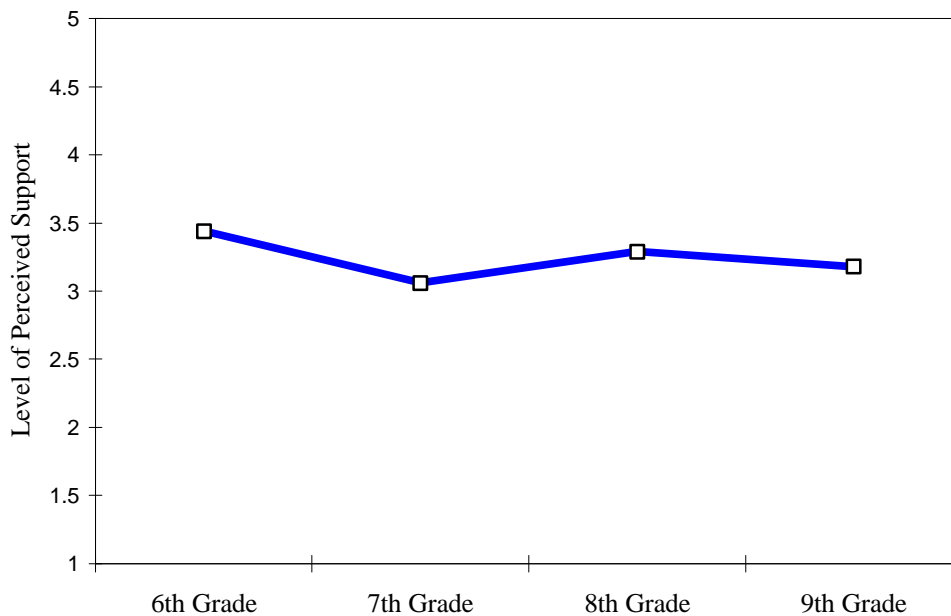
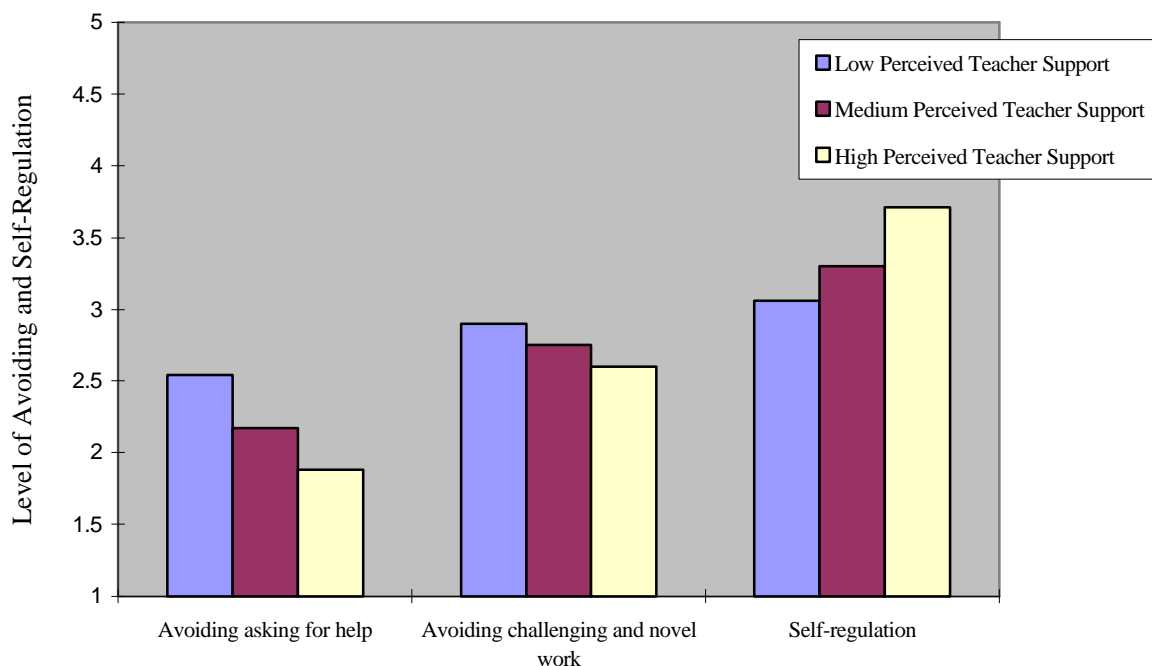


Figure 3. Change in perceived support from math teachers from sixth grade in middle school to ninth grade in high school

Figure 3 illustrates average change in students’ perceptions of support from math teachers (e.g., “Can you count on your teacher for help when you need it?” “Does your teacher try to help you when you are sad or upset?”). As you can see, students reported lower levels of support from math teachers in seventh grade compared to sixth grade, but thereafter perceptions of teacher support increased and remained fairly stable to ninth grade. In the report to middle schools last year, we reported that from sixth to seventh grades students perceived a drop in general teacher support (not specific to math), so this pattern appears to apply across content areas. We are curious about the drop in teacher support from sixth to seventh grade and are hoping that middle school teachers can suggest some reasons for this trend. In one school district, a seventh grade teacher told us that she believed her rapport with students was undermined by the need to prepare them for the state-mandated tests. It may also be the case that many of the middle school reforms that have been implemented (teaming, advisory programs, block scheduling, heterogeneous grouping) have been aimed in particular at the sixth grade level. Other teachers may have different ideas regarding this drop in teacher support when students move to seventh grade, as well as why there is a positive shift after the seventh grade.

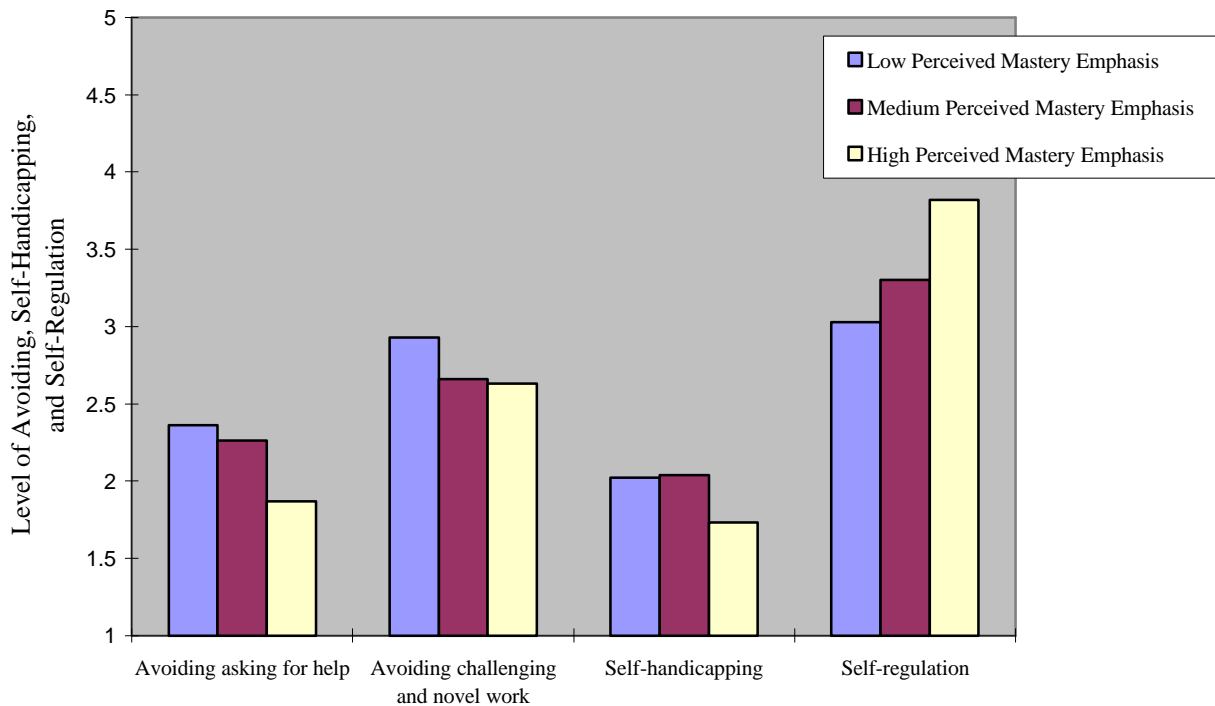
It is important to examine changes in perceived teacher support because there is strong evidence that experiencing positive interpersonal relationships in school is associated with students' emotional and academic well being. We found this to be true for students in middle school, and this pattern emerges again in high school. We found that when ninth grade students felt high levels of support from their teachers, they were less likely to avoid asking for help when they needed it, they were less likely to avoid challenging and novel work, and they were more likely to be planful and strategic in their study habits (see Figure 4). It is interesting to note, however, that students in ninth grade who received grades of C or below felt less support from their teachers than did students who received As and Bs. Yet the low performing students are the very students who may need support from teachers in order to help them stay engaged in school. We know this is a challenge for teachers and that this is a complex problem.



**Figure 4.** Perceived teacher support related to student reports of avoiding asking for help, avoiding challenging and novel work, and self-regulated learning

We would like to point out that providing a learning environment in which positive interpersonal relations can flourish is necessary but not sufficient to optimize student learning. In the previous report, we described the positive effects on students of perceiving an emphasis on mastery and challenge in the classroom and the negative effects of perceiving an emphasis on relative ability

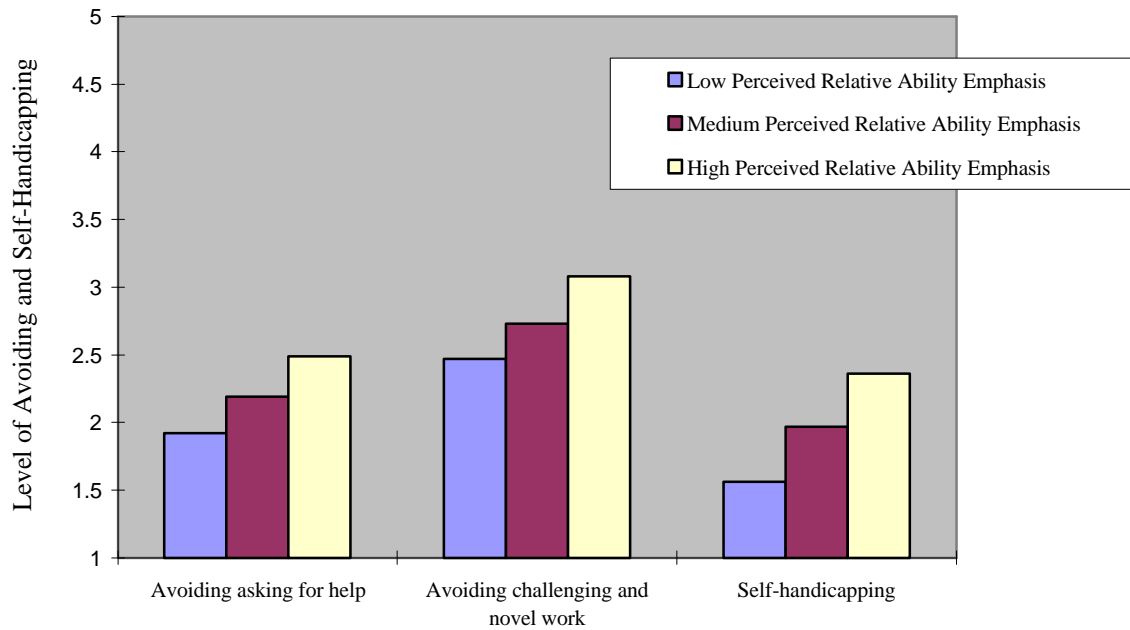
and competition among students. We find similar results in high school (see Figures 5 and 6). When ninth graders feel that their classroom emphasizes mastery, they are less likely to avoid asking for help when they need it, they are less likely to avoid challenging and novel work, they are less likely to self-handicap (e.g., purposefully engage in strategies that reduce effort), and they are more likely to use self-regulatory strategies (e.g., check their work when it is completed, find ways to eliminate distractions when studying).



**Figure 5.** Perceived emphasis on mastery related to student reports of avoiding asking for help, avoiding challenging and novel work, self-handicapping, and self-regulation

In contrast, when ninth graders feel their classroom emphasizes relative ability, social comparison, and competition among students, they are more likely to avoid asking for help even though they need it, more likely to avoid challenging and novel work, and more likely to self-handicap (see Figure 6). Across grade levels, our research and that of a number of researchers in other states and even in other countries have pointed to the importance of a learning environment where mastery, understanding, and challenge for all students are emphasized, and relative ability and competition among students are de-emphasized.





**Figure 6.** Perceived emphasis on relative ability related to student reports of avoiding asking for help, avoiding challenging and novel work, and self-handicapping

In our previous report, we told you that students felt that their teachers emphasized mastery and challenge less in middle school than in elementary school. We are heartened to find that as students move through middle school and into high school there are no further significant drops in the perception of a mastery emphasis. It is also encouraging that as students move through middle school and into high school, they perceive a decline in the emphasis on relative ability and competition among students (See Figure 7).

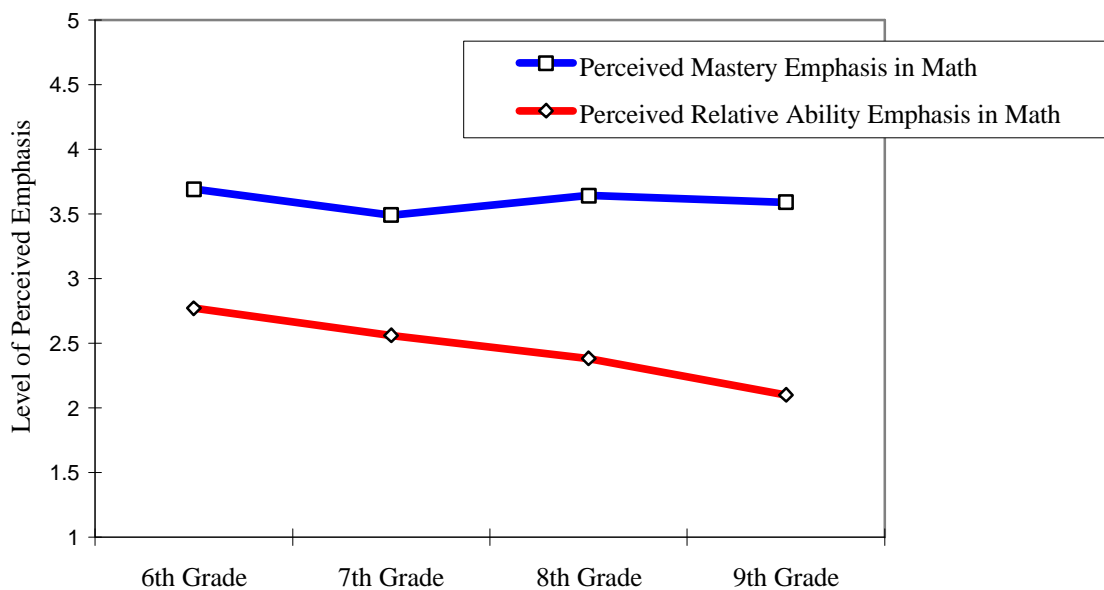


Figure 7. Change in perceived emphasis on mastery and relative ability in math class from sixth to ninth grades

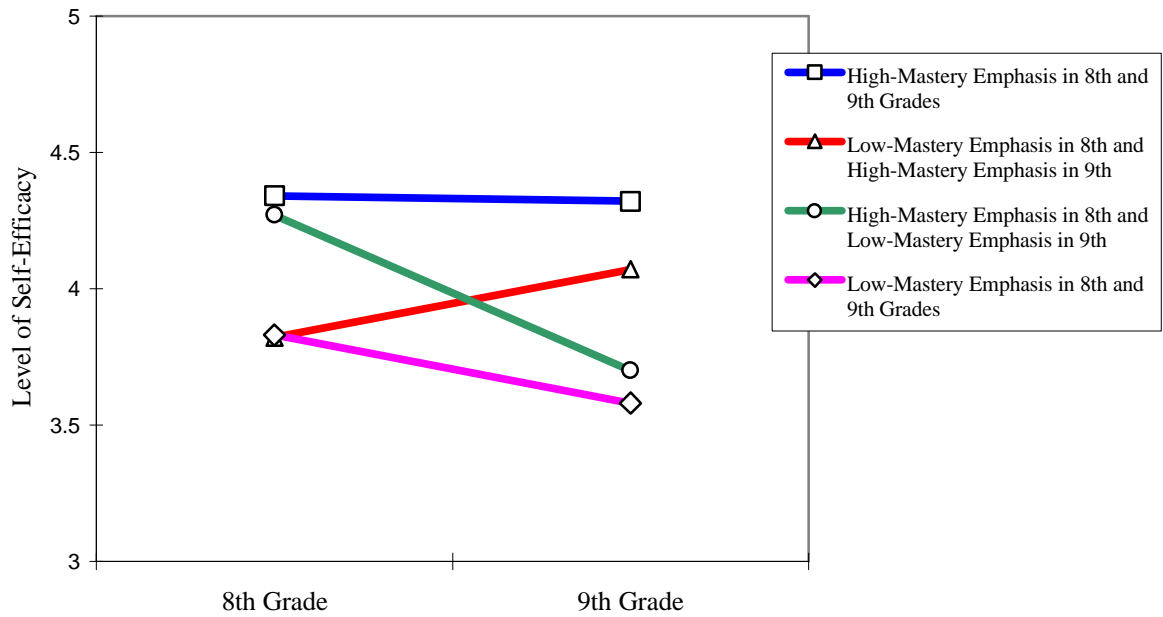
Can secondary schools enhance interpersonal relations and at the same time expect and promote academic excellence as defined by an emphasis on mastery and challenge? We have attended meetings where some parents and secondary school teachers pit the relationship dimension against the academic dimension. “We need to focus on promoting achievement and forget about this touchy-feely stuff. Schools are not about feelings, they’re about learning.” Or - “Adolescents need to feel supported and cared for, the learning will take care of itself.” Our data lead us to question both of these statements. We do not see this as a case of either/or. Indeed, our data suggest that relationships are enhanced when students are truly learning, and learning is enhanced when students are in a caring environment. How unfortunate it would be if the research, which indicates that middle schools have made progress with the relationship dimension but need to increase the emphasis on mastery and challenge, was interpreted as a criticism of the emphasis on relationships. The real challenge that lies ahead for middle schools is to sustain the positive changes in the relationship dimension while focusing new energy on providing a learning environment in which every young adolescent can learn and be successful. If what is valued is hard work, real understanding, and a willingness to take on challenging tasks, every young person can aspire to that.

We do not want our discussion of the need to foster academic excellence for all students in secondary schools to be interpreted as an endorsement of rewards for the highest grades, accelerated courses for students who “qualify,” or programs that promote competition among students. These would all be examples of an emphasis on relative performance. As we reported to you earlier, a learning environment that emphasizes social comparison and relative ability is associated with both lower motivation and lower performance in students. It is heartening that our data indicate that students perceive a decrease, not an increase, in the emphasis on relative performance as they move through middle school and into high school. This is very good news. Now the focus needs to be on increasing the emphasis on mastery, effort, and challenge.

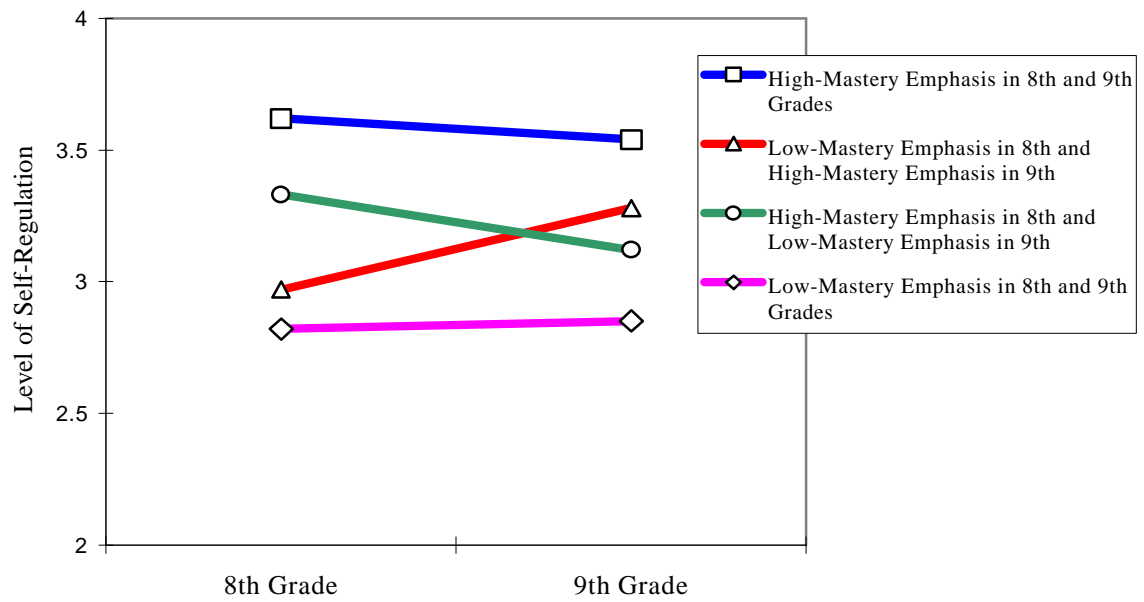
#### Changes Associated with the Transition from Middle to High School

In this section, we provide more information about our findings across the transition from middle to high school. There was little change in most of the indicators of emotional well being and academic engagement when students moved into high school. For example, there was no change, on average, in students’ self-esteem, sense of academic efficacy (“Even if the work is hard, I can learn it”), reluctance to ask for help in the classroom, purposeful withdrawal of effort, or avoidance of challenge.

However, we did find further evidence that students’ reports of changes in the emphasis in the classroom on mastery and/or relative ability were related to changes in a variety of student academic beliefs and behaviors. Specifically, when students reported an increase in the emphasis on mastery and effort in their classrooms from eighth to ninth grade, they also reported that they felt more efficacious and used more self-regulatory strategies (see Figures 8 and 9).

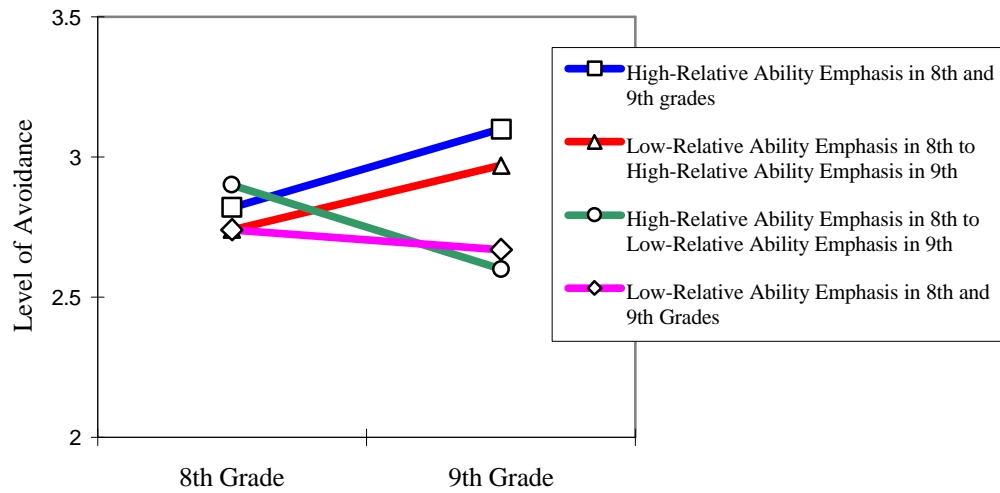


**Figure 8.** Change in self-efficacy for students perceiving a high or low emphasis on mastery in eighth grade math classes and perceiving a high or low emphasis on mastery in ninth grade math classes

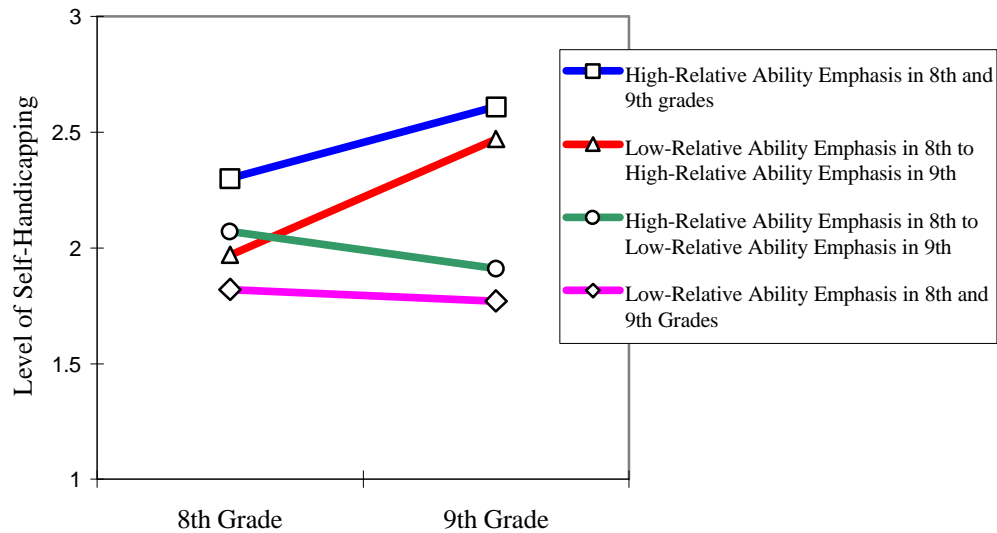


**Figure 9.** Change in self-regulation for students perceiving a high or low emphasis on mastery in eighth grade math classes and perceiving a high or low emphasis on mastery in ninth grade math classes

When students reported an increase in the emphasis on relative performance and social comparison in the classroom, they also reported an increase in their desire to avoid challenge (e.g., “I would prefer to do work that is not very different from what I am used to doing”) and in their use of handicapping (“Some students put off doing their work until the last minute. Then, if they don’t do well, they can say that is the reason. How true is this of you?”) (see Figures 10 and 11).



**Figure 10.** Change in avoiding challenge for students perceiving a high or low emphasis on relative ability in eighth grade math classes and perceiving a high or low emphasis on relative ability in ninth grade math classes



**Figure 11.** Change in self-handicapping for students perceiving a high or low emphasis on relative ability in eighth grade math classes and perceiving a high or low emphasis on relative ability in ninth grade math classes

What can teachers do to communicate to students that what is valued in the classroom is understanding, effort, mastery, and a willingness to take on challenging work? For three years we formed a coalition with an elementary and middle school in an ethnically and economically diverse working-class community. The goal of the coalition was to move away from an emphasis on relative performance and toward an emphasis on mastery and understanding. The following list emerged from interactions with teachers and parents in those schools.

<b>Strategies to Move Toward a Mastery-Focused Middle School Environment<sup>1</sup></b>		
	<b>Move Away From</b>	<b>Move Toward</b>
<b>Grouping</b>	Grouping by ability	Grouping by topic, interest, student choice Frequent reformation of groups
<b>Competition/ Cooperation</b>	Competition between students Contests with limited winners	Cooperative learning
<b>Assessment</b>	Using test data as a basis for comparison Over-use of standardized tests	Using test data for diagnosis Alternatives to tests such as portfolios
<b>Grading</b>	Normative grading Public display of grades	Grading for progress, improvement Involving students in determining their grades
<b>Recognition/Rewards /Incentives</b>	Recognition for relative performance Honor rolls for high grades Over-use of praise, especially for the completion of short, easy tasks	Recognition of progress, improvement An emphasis on learning for its own sake
<b>Student Input</b>	Decisions made exclusively by administrators and teachers	Opportunities for choice, electives Student decision-making, self-scheduling, self-regulation
<b>Approaches to the Curriculum</b>	Departmentalized approach to curriculum	Thematic approaches/interdisciplinary focus Viewing mistakes as a part of learning Allowing students to redo work Encouraging students to take academic risks
<b>Academic Tasks</b>	Rote learning and memorization Over-use of work sheets and textbooks Decontextualized facts	Providing challenging, complex work to students Giving homework that is enriching, challenging Encouraging problem solving, comprehension
<b>Remediation</b>	Pull-out programs Retention	Cross-age tutoring, peer tutoring Enrichment

<sup>1</sup>These strategies serve as examples. Strategies will depend on the characteristics of the school, the identified needs, and the preferences of the school staff. Strategies such as cross-age grouping, block scheduling, small house, and team teaching, although not listed here, are recommended as enabling mechanisms.

In addition, teachers who had decided to eliminate the honor roll felt a need to provide other forms of recognition to students. The list of Principles of Recognition that follows was developed by the teachers.

### **Principles of Recognition - Elementary Coalition**

1. Recognize individual student effort, accomplishment, and improvement.
2. Give all students opportunities to be recognized.
3. Give recognition privately whenever possible.
4. Avoid using "most" or "best" for recognizing or rewarding - as in "best project" or "most improved". These words usually convey comparisons with others.
5. Avoid recognizing on the basis of absence of mistakes. For example, avoid giving awards for students who get "less than five words wrong on a spelling test."
6. Avoid using the same criteria for all students. For example, avoid giving an award to "all students who get an A on the science test," or "all students who do four out of five projects."
7. Recognize students for taking on challenging work or for stretching their own abilities (even if they make mistakes). This gives a powerful message about what is valued in the classroom.
8. Recognize students for coming up with different and unusual ways to solve a problem or a novel way to approach a task. Again, you are telling students what you value.
9. Try to involve students in the recognition process. What is of value to them? How much effort do they feel they put in? Where do they feel they need improvement? When do they feel successful? How do they know when they have reached their goals?
10. It's O.K. to recognize students in various domains (behavior, athletics, attendance, etc.), but every student should have the opportunity to be recognized academically.
11. Try to recognize the quality of students' work rather than the quantity. For example, recognizing students for reading a lot of books could encourage them to read easy books.
12. Avoid recognizing grades and test scores. This takes the emphasis away from learning and problem solving.
13. Recognition must be real. Do not recognize students for accomplishing something they have not really accomplished, for improving if they have not improved, or for trying hard if that is not the case. The important factor is letting students know that they have the opportunity to be recognized in these areas.

We do not believe that one policy or practice defines whether a learning environment emphasizes mastery or relative performance. Administrators and teachers often ask us if they should give up the honor roll, do away with grades based on relative ability, or reward students for effort and improvement. We tell them that a constellation of policies and practices communicates to students whether understanding and mastery, or doing better than others, is the focus of learning in their schools. Each school has to decide what policies and practices are consonant with their goals and the goals of parents and members of the community. What we can say is that there is growing evidence that an emphasis on relative ability is detrimental to students' motivation and performance, and that this is true for high achieving students as well as for low achieving students. Our research also points to the particularly powerful and positive influence of a learning environment in which all students believe that if they try hard and take on difficult work, they can be successful.

#### Teacher Data: Comparisons of Elementary, Middle, and High School Teachers

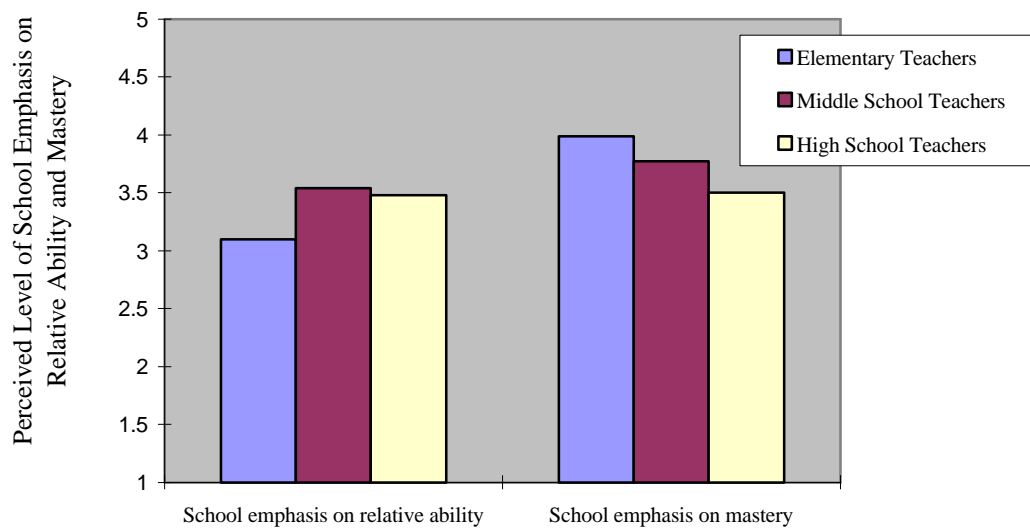
Teachers in all the participating schools filled out surveys assessing their beliefs, perceptions of the school environment, and approaches to instruction. We are very grateful to teachers for providing us with this information. We have used these data in a number of studies that have examined classroom level predictors of students' beliefs and behaviors. We reported some of those findings in our earlier report to you. But we have not provided you with information that compares elementary, middle, and high school teachers' beliefs, perceptions, and approaches to instruction.

When students were in the fifth, sixth, and ninth grades, all of the classroom teachers in their schools were given surveys to complete and return. A total of 657 teachers from 17 elementary, 10 middle, and 5 high schools participated in the study. Teachers were asked about the goals emphasized in their schools (emphasis on mastery and/or relative performance), their personal teaching efficacy, and their approaches to instruction in their classrooms (emphasizing relative performance and/or mastery). Items assessing an emphasis on relative performance in the school include: "In this school, students are encouraged to compete with each other academically" and "In this school, students who get good grades are pointed out as an example to others." Items assessing an emphasis on mastery in the school include "In this school, students are told that



making mistakes is OK as long as they are learning and improving” and “In this school, a real effort is made to recognize students for effort and improvement.” Similar distinctions are made between teachers' reports of their own approaches to instruction (“I stress to students that I want them to understand the work, not just memorize it” and “I point out those students who do well academically as a model for other students.”). Personal teaching efficacy assesses the degree to which teachers feel that they are effective in facilitating the educational progress of all their students.

Recall that we found that students, on average, perceived a decline in the emphasis on relative ability after the transition to high school, and their perceptions of the emphasis on mastery did not change from eighth to ninth grade. However, when we asked teachers about their schools and classrooms, we found a somewhat different pattern. Middle and high school teachers perceived a greater emphasis on relative ability and competition in the school than did elementary teachers. In addition, high school teachers reported the least, and elementary school teachers the most emphasis in the school on mastery, effort, and understanding (see Figure 12).

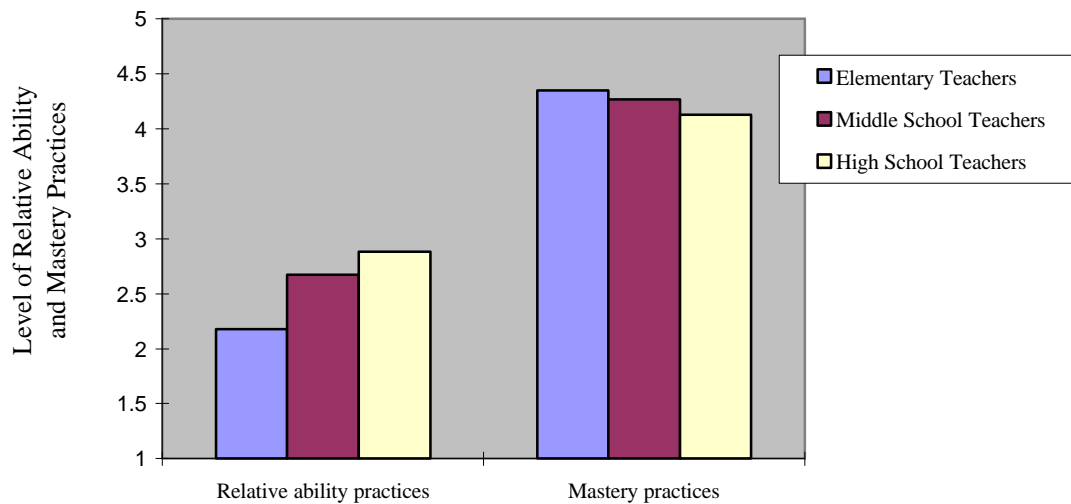


**Figure 12.** Elementary, middle, and high school teachers' perceptions of the school's emphasis on mastery and relative ability

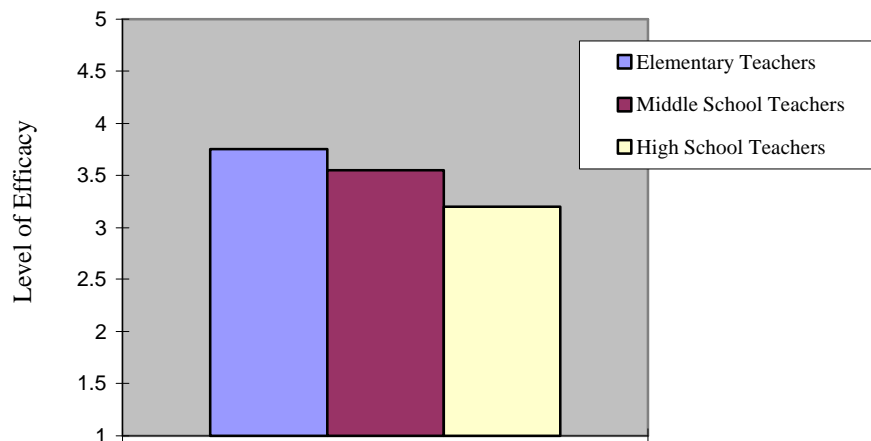
Similar trends were found with regard to teachers' reports of their own approaches to instruction. High school teachers reported that they emphasized effort and understanding less than did middle and elementary school teachers. High school teachers also reported greater use of practices that emphasized relative ability and competition among students than did middle school

teachers, and middle school teachers reported a greater use than did elementary teachers (Figure 13). Given the findings reported earlier regarding the negative effects on students of an emphasis on relative ability and the positive effects of an emphasis on mastery and understanding, these results are a cause for concern.

Significant school level differences were also found in teachers' reports of personal teaching efficacy; elementary teachers reported the highest efficacy, followed by middle and high school teachers (Figure 14).



**Figure 13.** Elementary, middle, and high school teachers' reports of own relative ability and mastery approaches in the classroom



**Figure 14.** Elementary, middle, and high school teachers' efficacy beliefs

These results are similar to those found in other studies comparing the efficacy of elementary and secondary school teachers. When teachers believe that they are making a difference in the lives of their students, we have found that students' motivation and performance improve. Therefore it is troubling that middle and high school teachers feel that they have less of an impact on their students' success than do elementary teachers. Secondary teachers interact with many students during a typical school day and may feel that it is difficult under these conditions to have a major impact on their students' academic lives. Although we think of teaming and some of the other reforms that have been suggested as a way to enhance student learning, they may also enhance teachers' beliefs about their effectiveness. This is an issue that needs to be examined further. Increasingly, two-member teacher teams (for example, one teacher teaching math and science, and one teaching English and social studies) are being recommended. In that way, the number of different students a teacher interacts with during a school day is cut in half. Perhaps there are other ways that secondary schools can enhance their teachers' feelings of efficacy. Studies indicate that teachers feel more efficacious when they are given a chance to participate in important decisions that affect their teaching and their students. They also feel more efficacious when they are in an environment where collegiality flourishes and they are given support when reforms are undertaken. Finally, just like students, high school teachers feel more efficacious when they are in an environment where promoting mastery and understanding is the goal (Figure 15).

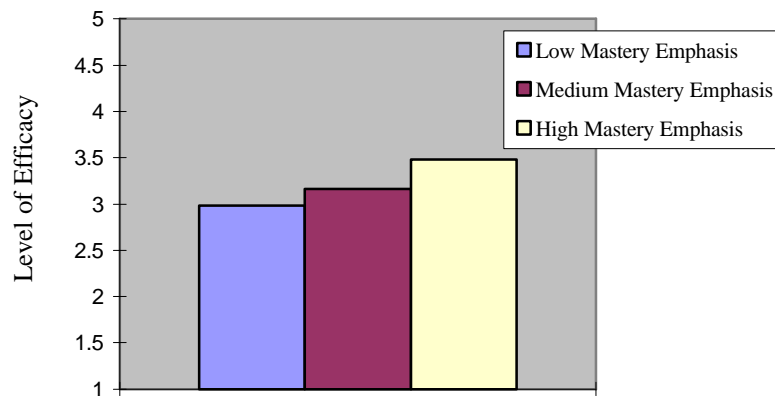
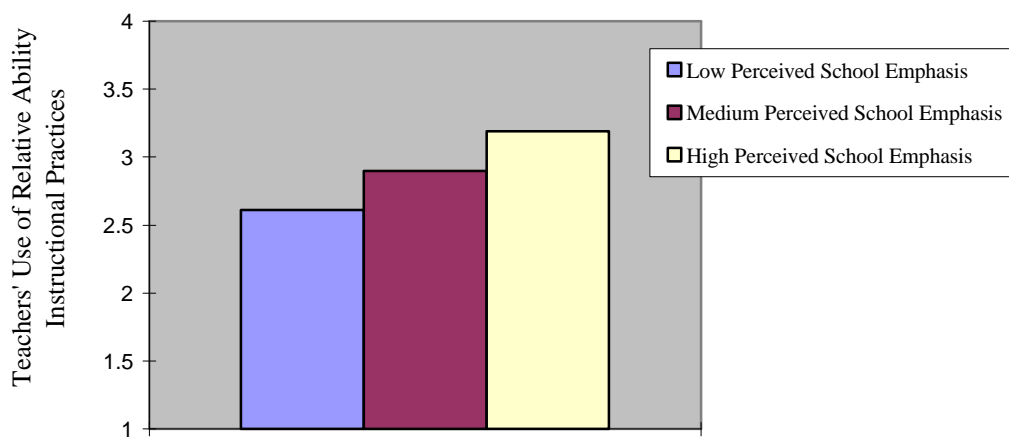


Figure 15. Relation between high school teachers' perceptions of school emphasis on mastery and their reports of feeling efficacious

We also examined factors associated with teachers' use of strategies that focus on the relative ability of their students (e.g., "I help students understand how their performance compares to others," "I point out those students who do well academically as a model for the other students"), since these practices have been found to be associated with the use of debilitating strategies by students. The strongest predictor was teachers' perception that the school emphasized relative performance. That is, when teachers perceived that their school emphasized social comparison and competition among students, they also used these types of strategies in the classroom. This relationship for high school teachers is illustrated in Figure 16.



**Figure 16.** Relation between high school teachers' perceptions of school emphasis on relative ability and their own approaches emphasizing relative ability in the classroom

### **We are Eager to Hear From You**

We met with district administrators, principals, and teachers in two of the participating school districts after we distributed our middle school report last year. In five of the nine middle schools, administrators made copies of the report for all their teachers. We have also been receiving requests for copies of the report from counselors and principals in other school districts in Michigan.

We are available to meet with district personnel, with teachers, or with students and parents to discuss any of these findings, to answer questions, and in particular, to hear your insights and interpretations. You can call Carol Midgley at her office (734-763-1385), at home (734-769-0272) or send her a fax (724-615-2164) or an email message (cmidgley@umich.edu). Margaret,

Lidi, Roxana, and Jeanne are also available to respond to your inquiries or to set up a meeting in your district.

This has been an important study with implications for practice as well as for theory. We express our sincere appreciation to all participants: students, teachers, and other school staff members. Many people have gone out of their way to facilitate this study and to help us gather data. Although we are no longer gathering data in these districts, we are available to help you in any way.