

**Student and Classroom Environment Mismatch
Junior High School Transition Effects.**

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Several investigators suggest that there are general developmental declines in such motivational constructs as: interest in school (Epstein & McPartland, 1976); intrinsic motivation (Harter, 1980); and self-concepts (Eccles et al., 1984 and Simmons). We have outlined these general declines in Eccles, Midgley, and Adler, 1984 and Eccles and Midgley, 1989. The major changes are listed on Figure 1. Some of these changes vary across subject areas. For example, Figure 2 illustrates the changes in fifth through twelfth grade students' ratings of their own ability, of the value they attach to the subject area, and of their perceptions of the difficulty of the subject area for both math and English. As you can see, the general decline in these motivational attitudes is only characteristic of math.

SHOW OVERHEADS OF FIGURES 1 AND 2

Some of these changes are especially marked at the junior high school transition. For example, our data (see Figure 2) indicates a marked discontinuity in the rate of change in attitudes toward math between grades six and seven. Similar discontinuities are evident in the work of Harter (1981) and Simmons and her colleagues (e.g. Simmons and Blyth, 1987).

The bulk of studies indicate that something unique may be going on during early adolescence and that it interacts with the nature of school transitions in affecting the motivation of early adolescents.

Several investigators have suggested just such a link between these motivational declines and the junior high school transition. These investigators suggest that the school transition is causally related to changes in early adolescents' motives, beliefs, values, and behaviors (Blyth, Simmons, & Carlton-Ford, 1983; Eccles, Midgley, & Adler, 1984; Eccles & Midgley, 1989; Simmons & Blyth, 1987). Several important questions have been raised. Does the transition have a negative impact on early adolescent development? What are the mediators between the transition and changes in beliefs and behaviors? Are some early adolescents more vulnerable to transition effects than others? What are the long term consequences of the transition effects? Is a school transition at this stage of life inevitably detrimental for some groups of children? On the one hand, cumulative stress theory (see Simmons & Blyth, 1987) suggests that the timing of the transition to junior high school should result in more disruption to the individual already undergoing the stress associated with pubertal development than would a similar transition a few years later "after the individual has developed a more mature sense of who he or she is" (Blyth et al., 1983, p. 106).

On the other hand, both Simmons and Blyth (1987) and Eccles et al. (1984) have argued that the nature of the transition, as well as the timing, is important. My colleagues and I, in particular, have argued that it is the fit between the developmental needs of the adolescent and the educational environment that is important. Imagine two trajectories: one a developmental trajectory of student growth. The other a trajectory of environmental change across the school years. We believe there will be positive motivational consequences when these two trajectories are in sync with one another; in other words, when the environment is both responsive to the changing needs of the individual and offers the kinds of stimulation that will propel continued positive growth. In contrast, negative motivational consequences will result if the two trajectories are out of

sync. In other words, transition to a facilitative and developmentally appropriate environment, even at a vulnerable age should have a positive impact on children's perceptions of themselves and their educational environment.

Unfortunately, we believe that developmentally inappropriate changes in a cluster of classroom organizational, instructional, and climate variables, including task structure, task complexity, grouping practices, evaluation techniques, motivational strategies, locus of responsibility for learning, and quality of teacher-student and student-student relationships may contribute to the negative change in students' motivation and achievement-related beliefs assumed to coincide with the transition into junior high school.

In particular, we believe that the prototypical environmental changes experienced by many early adolescents as they move from elementary school to junior high school include increases in the following: the size of student body, the extent of both departmentalization and ability grouping, use of competitive motivational strategies, rigor in grading along with increased focus on normative grading standards, teacher control, and whole class instruction. They may also experience several types of changes in the classroom such as decreases in teacher trust of students, opportunities for student autonomy, teachers' sense of efficacy, and continuous close, personalized contact between teachers and students and between students and their friends that also may undermine their academic motivation (Show overheads on environmental changes changes).

OVERHEAD SPECIFIC CHANGES IN EDUCATIONAL ENVIRONMENT

In turn, we believe that these types of changes are particularly harmful at early adolescence given what we know about adolescent development. Figure 4 summarizes the major developmental changes associated with adolescent development. These changes include

increases in the desire for autonomy, coupled with an increased peer orientation, increased self-focus and self-consciousness, increased salience of identity issues, increased concern over heterosexual relationships, and increased cognitive capacity. In order to meet these developmental tasks, adolescents need a reasonably safe environment as well as an intellectually challenging environment.

SHOW OVERHEAD ON DEVELOPMENTAL CHANGES

In light of these needs, the environmental changes we believe are often associated with the transition to junior high school would be especially harmful in that they emphasize competition, social comparison, and ability self-assessment at a time of heightened self-focus; they decrease decision-making and choice at a time when the desire for control is growing, they emphasize lower level cognitive strategies at a time when the ability to use higher level strategies is increasing; and they disrupt social networks at a time when adolescents are especially concerned with peer relationships and may be in special need of close adult friendships. The nature of the environmental changes coupled with the normal course of individual development results, it seems to us, in a developmental mismatch so that the "fit" between the early adolescent and the classroom environment is particularly poor, increasing the risk of negative motivational outcomes for the children.

We have spent the last 4 years testing these hypotheses. The work I'll now report reflects the efforts of my several colleagues as well as my own. We have gathered 4 waves of data on approximately 2500 students who moved from sixth grade to seventh grade and made transition to junior high school. Average participation rate was about 90% and between year attrition was about 14%, due mostly to family moves. The sample was drawn from 12 school districts. A total of 107 sixth grade teachers, and 64 junior high school teachers participated. (Average participation rate of teachers was about 95%). Data were collected in the fall and spring of each year. Student

data was gathered by questionnaire in math class; teacher data was collected either during class or by follow-up questionnaire.

I will focus first on the differences we are finding in the behaviors and beliefs of teachers across this transition and will then discuss their impact on the students in our sample. Based on the nature of the decline in student attitudes, cultural stereotypes regarding early adolescence, organizational theory, and existing studies, we predicted the following types of changes in teacher beliefs and behaviors:

1. Increase in control concerns and control practices
2. Decrease in trust and autonomy
3. Decrease in teacher efficacy beliefs
4. Increase in practices that focus children's attention on ability assessment, such as ability grouping, social comparison, whole class instruction, performance rather than effort based grading systems.

In other words, since the transition to junior high school involves a move from a small, informal, relatively homogeneous school to a more structured and impersonal organization, it would involve the disruption of peer networks, and an increase in the distance between teachers and students. These changes, in turn, should increase the frequency of teacher control, and decrease the students' sense of control and familiarity with their teachers. In addition, since the junior high school is often seen as a time to get serious about instruction and about performance evaluation, the transition to junior high school should increase the frequency of certain practices, such as ability grouping and grading on the curve, that accentuate the importance of ability as a sorting characteristic.

SHOW OVERHEAD ON TEACHER BELIEFS

What did we find? The results for the teacher control, teacher trust, and teacher efficacy variables are illustrated in Figure 5 which depicts the results from an analysis by Midgley, Feldlaufer, and Eccles (1988). As predicted, seventh grade teachers report more need to control their students than sixth grade teachers on such items as 'it is often necessary to remind students that their status in school differs from that of teachers' and 'students often misbehave in order to make teachers look bad'. Similarly, as predicted, seventh grade teachers rate students as less trustworthy than sixth grade teachers on items such as 'Most students will waste free time if not given something to do' and 'students can be trusted to work together without supervision'. Finally, again as predicted, seventh grade teachers feel less efficacious than sixth grade teachers, despite the fact that seventh grade teachers are more likely to teaching their speciality.

Similar patterns emerged on students' and observers' view of the warmth of the relationship between students and teachers. Seventh grade teachers were seen as less fair and less friendly by both groups (Feldlaufer, Midgley, & Eccles, 1988).

The results for changes in ability-focusing experiences is illustrated in Figure 6. Rosenholtz and Simpson (1984) have suggested that whole class instruction makes ability comparisons easier and more salient; conversely, cooperative and/or individualized instruction should decrease competition and social comparison amongst the students. We have compared teacher, student, and observer reports of instructional management. All three sources report an increase in whole class instruction, a decrease in individualized and cooperative structure, and an increase in social comparison interest among students. The teachers' reports are illustrated in Figure 6.

OVERHEAD ON CLASSROOM ENVIRONMENT DIFFERENCES

The results for teacher control and student autonomy are shown in the next series of overheads. Midgley and Feldlaufer (1987) compared the students' view of their autonomy as they moved from sixth to seventh grade, using a set of items developed by Lee and his colleagues (Lee, Statuto, & Kedar-Vivodas, 1983). These items ask students about five possible areas in which they might be allowed to help make classroom policy. They are asked two questions about each area: Are they allowed to participate in the decision-making and should they be allowed to participate. The teachers at each grade level were asked a comparable set of questions about the amount of decision-making opportunity they provided to the students and the amount of decision-making they thought was appropriate. Results are displayed in Figures 7-11.

SHOW OVERHEADS ON STUDENT AND TEACHER DECISION-MAKING

Several things emerged clearly in the data. As one would expect, there is an increase in children's desire for more decision making opportunities as they move into junior high school (see Figure 7). Also as predicted and contrary to what a developmentally guided curriculum might recommend, the children perceived fewer opportunities in the seventh grade than they had perceived the previous year in their sixth grade classroom (see Figure 8). These two trends produce a greater mismatch between the students' desires and their perceived opportunities in the seventh than in the sixth grade (see Figure 9). Furthermore, their perceptions appear to be accurate since the junior high school teachers themselves reported providing fewer decision-making opportunities than the sixth grade teachers (see Figures 10 & 11) as well reporting greater concern over student control on the attitude measures discussed earlier.

Implications for Student Motivation

We are just beginning to look at the impact of these grade-level shifts in teacher beliefs and behaviors on children's self-perceptions. I am going to focus on three of these changes today: Changes in autonomy and control, changes in teachers' feelings of efficacy, and changes in teacher trust and warmth.

Autonomy and decision making:

How might the widening mismatch between the students' desire for autonomy and their perceptions of their opportunity for autonomy affect motivation? Person-Environment Fit theories suggest that a mismatch between one's needs and the environmental affordances will lead to decline in motivation and engagement. Maclver, Klingel, and Reuman (1986) tested this prediction with the sixth grade students by relating perceived congruence versus perceived incongruence to student motivation and behavior. Congruent children differed from incongruent children in several ways (assessed using CHANGES IN congruence to predict changes in the child variables). They rated math as more useful and interesting; they liked the teacher and school in general better; they had higher expectations for their own performance in math; and they engaged in less misbehavior according to own and their teachers' reports. Therefore, it seems likely that this decline in the opportunity for decision-making and this increase in the misfit between students' desire for autonomy and their perceptions of the opportunities for autonomy in their seventh grade math classrooms could contribute to the decline we find in their motivation to study math.

Maclver and Reuman (1988) have begun to test this hypothesis directly. Maclver and Reuman compared the changes in intrinsic interest in math of students reporting different patterns of change in their responses to the Lee items. Consistent with our prediction, the students who perceived their seventh grade math classrooms as putting greater constraints on their preferred level of participation in classroom decision-making than their sixth grade math classrooms show

the largest and most consistent declines in their interest in math between the sixth and seventh grades. That is, students who experience an increase in their unmet desire for input in classroom decision-making as they move from sixth to seventh grade show the largest declines in their interest in math as they make this school transition. These are the students who are experiencing a developmentally inappropriate mismatch between their maturation and the affordances provided by their classroom environments.

Teacher Efficacy

Midgley, Feldlaufer, and I have assessed the impact of moving from a high efficacious teacher to a low efficacious teacher in conjunction with the transition to junior high school. First, it should be noted that the most common pattern of change is from a high efficacy sixth grade teacher to a low efficacy seventh grade teacher; 559 out of 1329 students experienced this pattern. Another 474 experienced a low/low pattern; 117 experienced a low/high pattern; and 179 experienced a high/high pattern. Thus, fully 78% of our sample of children moved into low teacher efficacious classrooms in the seventh grade.

SHOW OVERHEADS ON TEACHER EFFICACY EFFECTS

In general, the children who moved from a high to a low efficacious teacher or from a low to a low efficacious teacher came to see math as more difficult, developed lower expectations for their own performance, and came to believe that math is a less modifiable characteristic than children moving into a high teacher efficacious classroom in the seventh grade. This pattern is well illustrated in Figures 12 and 13 depicting the students' ratings of the modifiability of math ability and of their expectations for their own performance. What is even more disturbing is that these effects are especially marked for low performing math students - the ones most at risk for school failure and later school drop out. Figures 14 -15 illustrate this pattern quite clearly.

Overheads on low performing students.

Teacher-Student Relations:

As reported earlier, we found that student/teacher relationships deteriorate after the transition to junior high school (Feldlaufer et al., in press). Research on the effects of classroom climate indicates that the quality of student teacher relationships is associated with students' academic motivation and attitudes toward school (e.g. Fraser & Fisher, 1982). We predicted that this decline would have its most powerful impact on motivational variables linked to subjective task value, i.e., interest, perceived usefulness and perceived importance.

In a sample of 1301 students, we looked at the effect of differences in perceived teacher support before and after the transition to junior high school on changes in the value students attach to mathematics (Feldlaufer et al., in press). We found, as predicted, that when students move from an elementary school teacher they perceive to be high in support to a junior high school teacher than they see as low in supportiveness, the value they attach to math decreases. In contrast, when students move from a low supportive sixth grade teacher to a high supportive seventh grade teacher, their interest in math increases. Unfortunately, most students experience the first pattern of change.

SHOW OVERHEAD ON RELATIONSHIPS

Summary and discussion

We have begun to provide an in depth description of the classroom environment changes experienced by most children as they make the transition from elementary school into junior high

schools. In general, we find evidence of the types of changes we had predicted: namely, an increase in student control, and a decrease in teacher's feelings of efficacy and in the quality of teacher/student relations. We have also begun to assess the impact of these changes on student motivation using a quasi-experimental approach. These results confirm the negative consequences of these types of changes and provide evidence that a different type of change would produce positive motivational changes at this developmental period. Together these two outcomes support our suggestion that declines in motivation often assumed to be characteristics of the early adolescent period are less a consequence of the students' developmental stage than of the mismatch between the students' needs and the opportunities afforded them in the traditional junior high school environment.

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**Changes in Motivation
Associated with
Junior High School Transition**

Decline in General Interest in School

**Increase in Extrinsic Motivational Orientation for
School Work**

**Decrease in Intrinsic Motivational Orientation
for School Work**

Decline in General Self-Esteem

**Decline in Confidence in Some Academic
Disciplines**

**Decline in Subjective Task Value attached to
Some Academic Subjects**

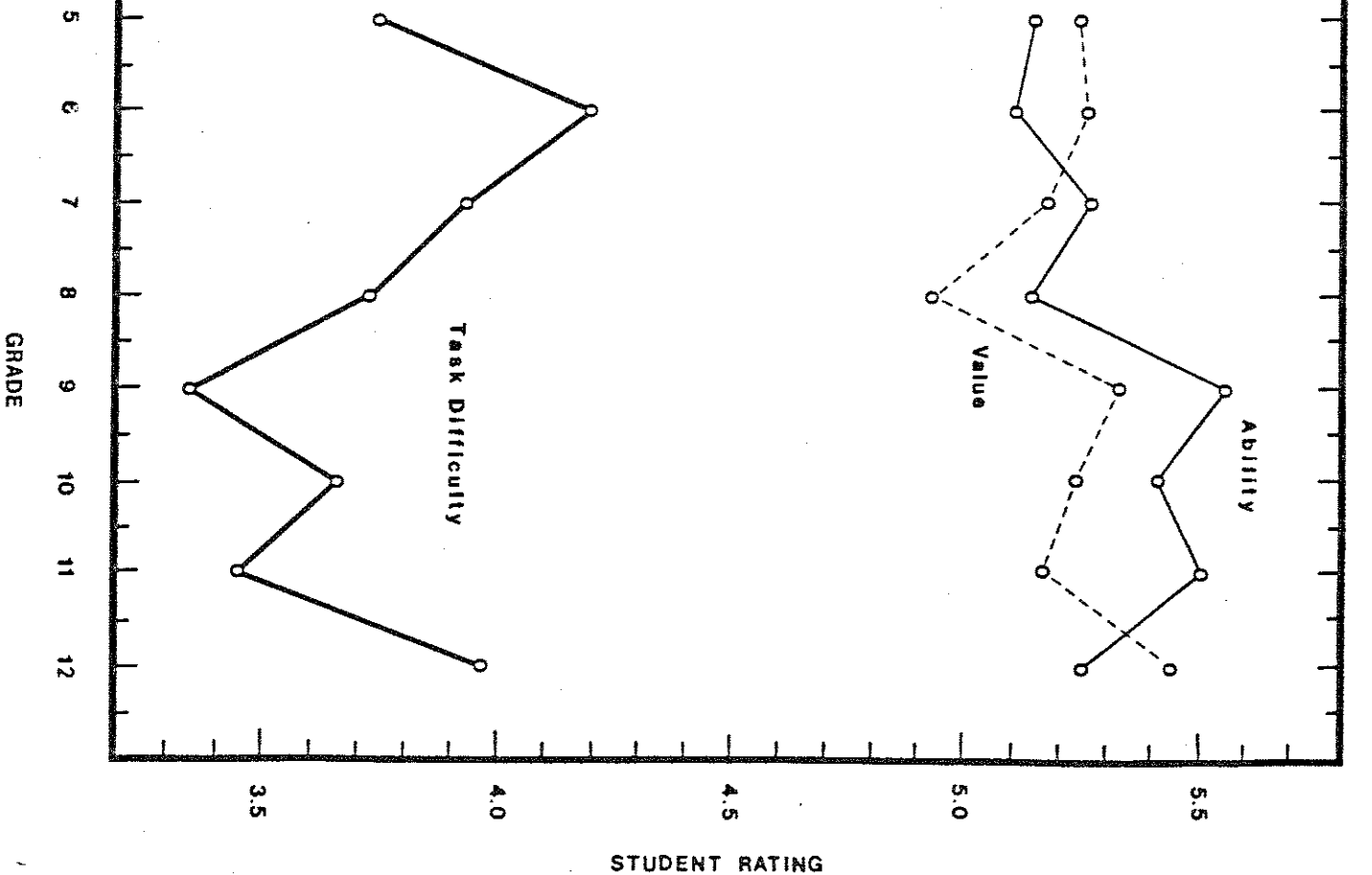
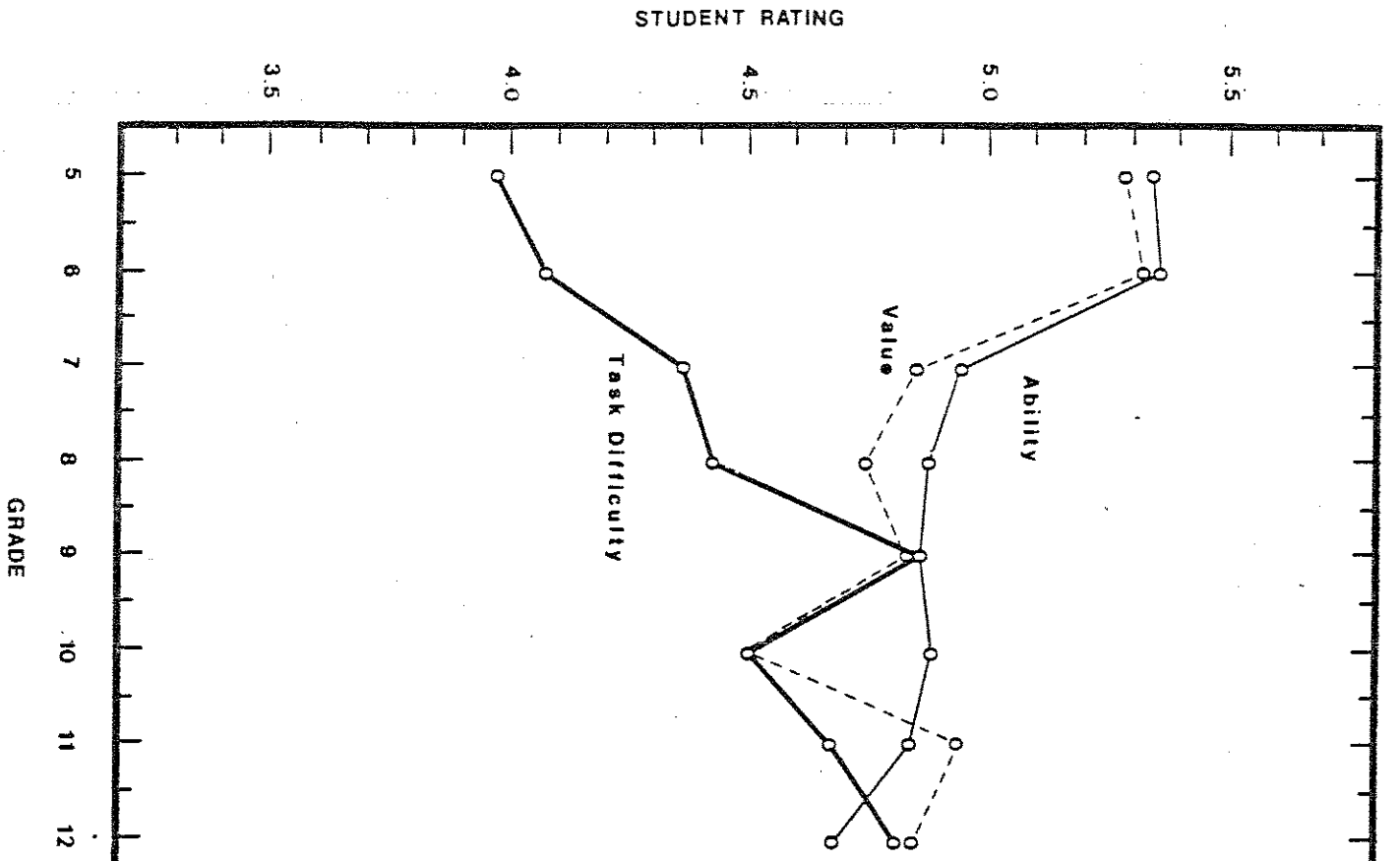
**Increase in Anxiety and in the relationship
of Anxiety to School Performance and Intrinsic
Motivation**

**Decrease in the Relationship between Academic
Performance and Confidence in One's Academic
Abilities**

**Increase in Confusion regarding the Causes of
One's Academic Performance**

Increase in Self-Focused Motivation

**Increase in Endorsement of View that Academic
Abilities are Stable**



**Environmental Changes
associated with
Junior High School Transition**

Classroom-Specific Changes

Increase in Extrinsic Motivational Strategies

**More Rigorous Grading Practices resulting in
Lower Average Grades**

**Increase in Practices likely to focus Students'
Attention on Ability Assessment**

Ability Grouping

Whole Class Instruction

Normative Performance-Based Grading Practices

Competitive Motivational Strategies

Increase in Teacher Concern with Control

Decrease in Teachers' Trust of Students

**Decrease in Opportunity for Student Participation in
Classroom Decision-Making**

Decrease in Student Autonomy

Decrease in Teachers' Sense of Efficacy

**Initial Decrease in the Cognitive Level of the Tasks
Required of Students**

DEVELOPMENTAL CHARACTERISTICS OF EARLY ADOLESCENTS

Increased Desire for Autonomy

Increased Sallience of Identity Issues

**Continuing Need for Safe Environment in
which to Explore Autonomy and Identity**

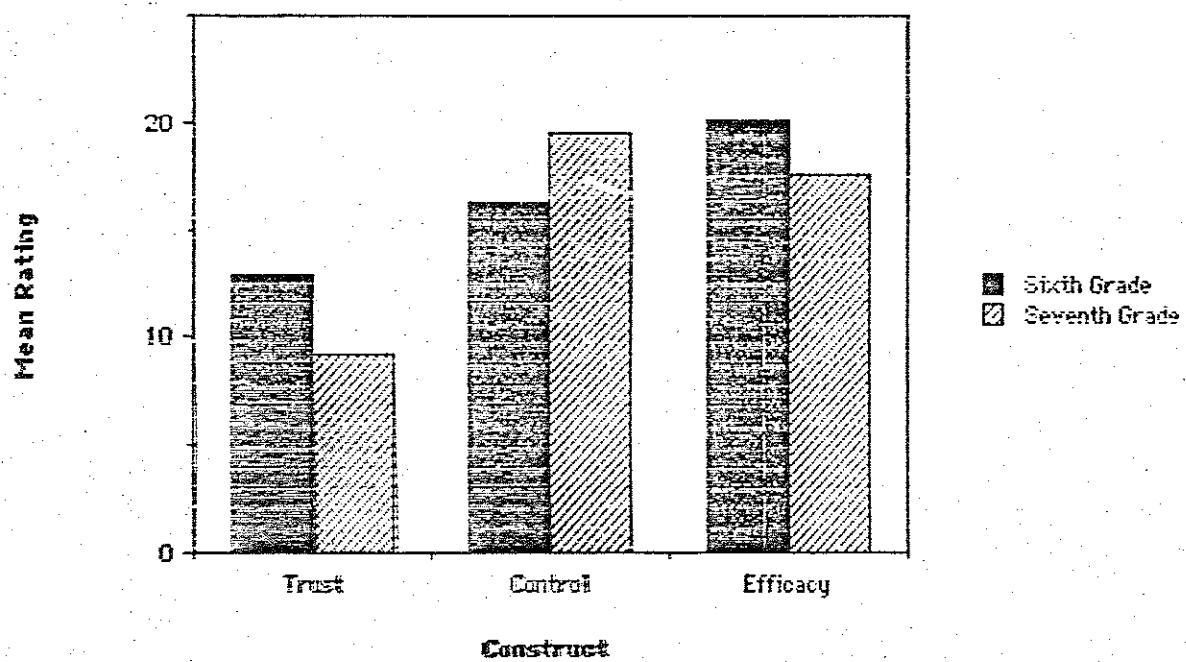
Increased Peer Orientation

Increased Self-Focus and Self-Consciousness

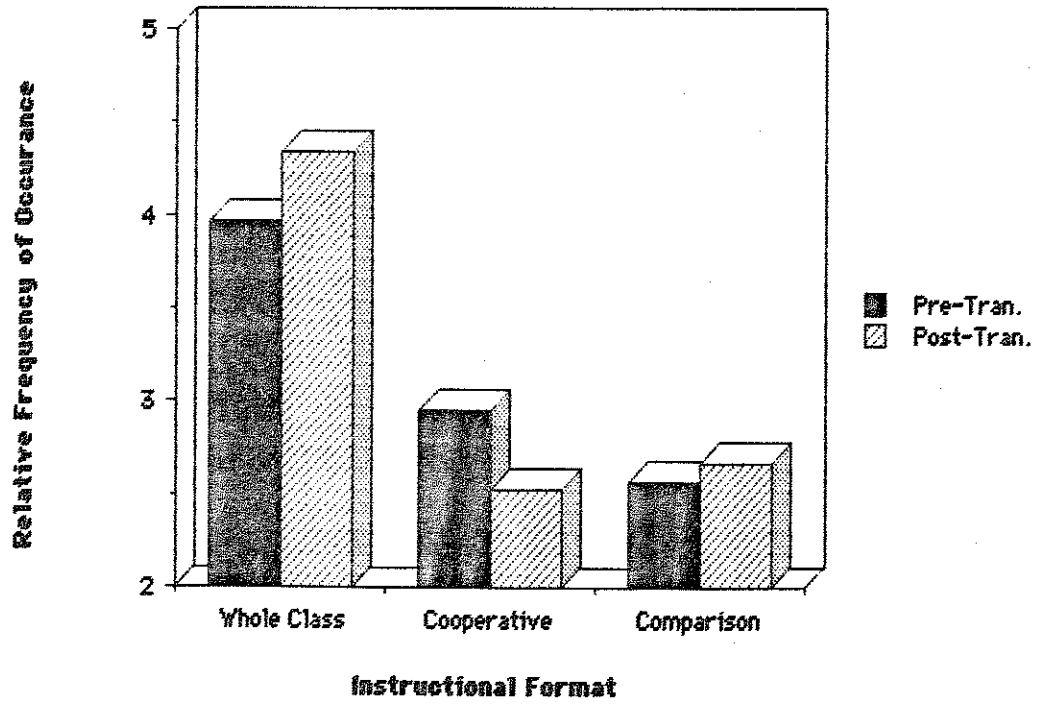
**Increased Cognitive Capacity with Movement
toward Formal Operational Thought**

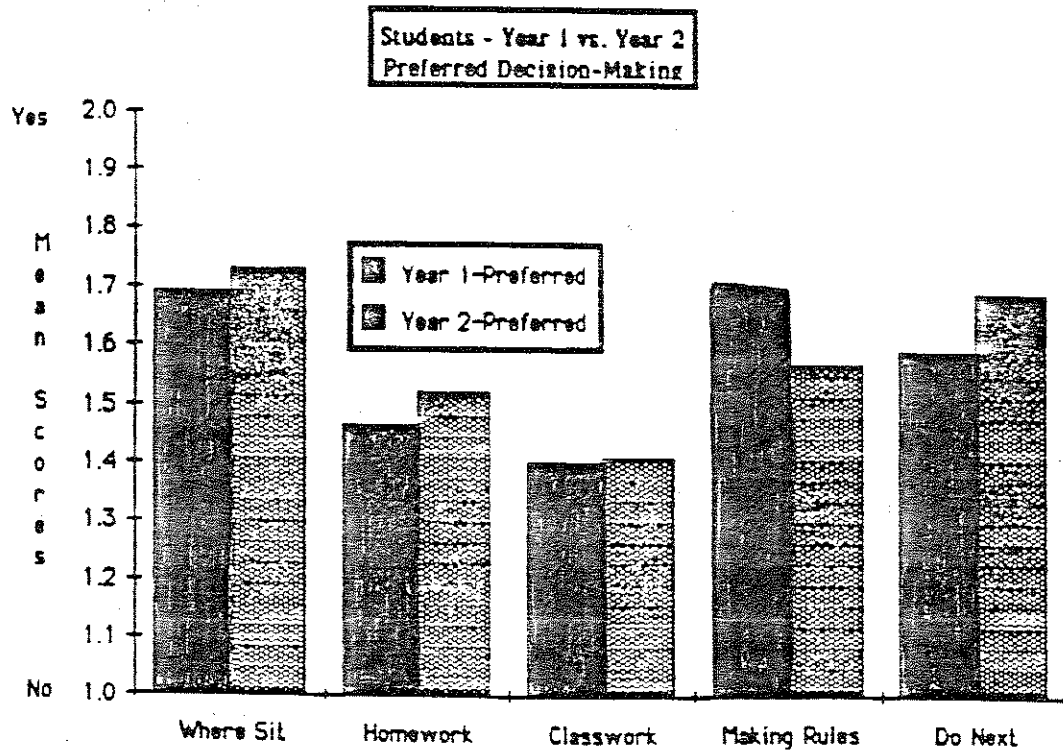
**Physical and Hormonal Changes associated
with Pubertal Development**

Teacher Beliefs



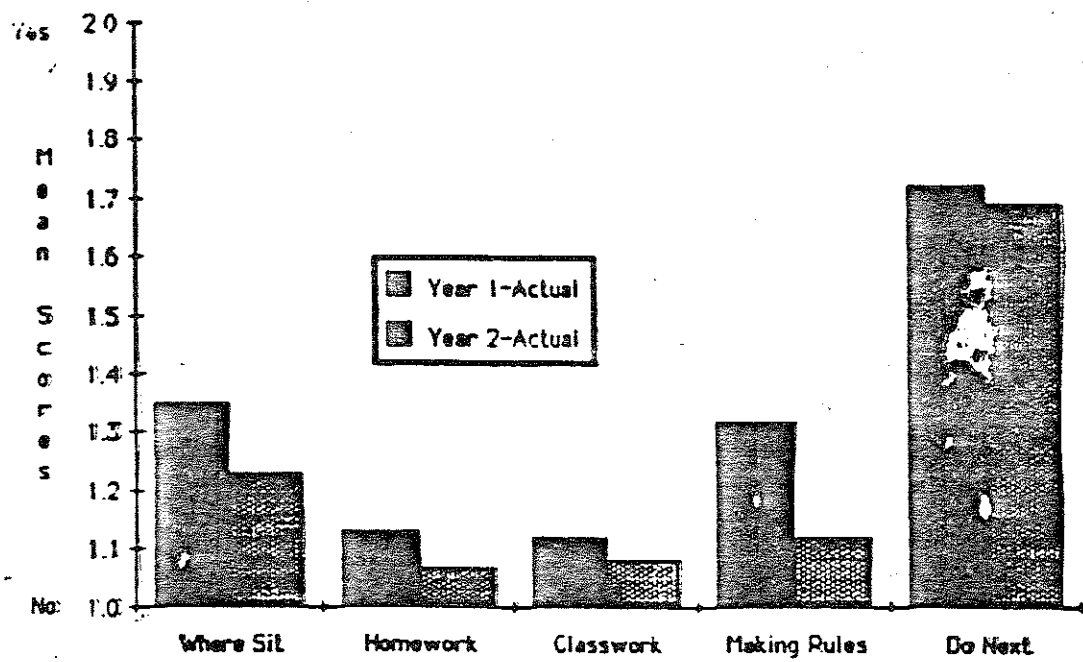
Classroom Enviroment Differences





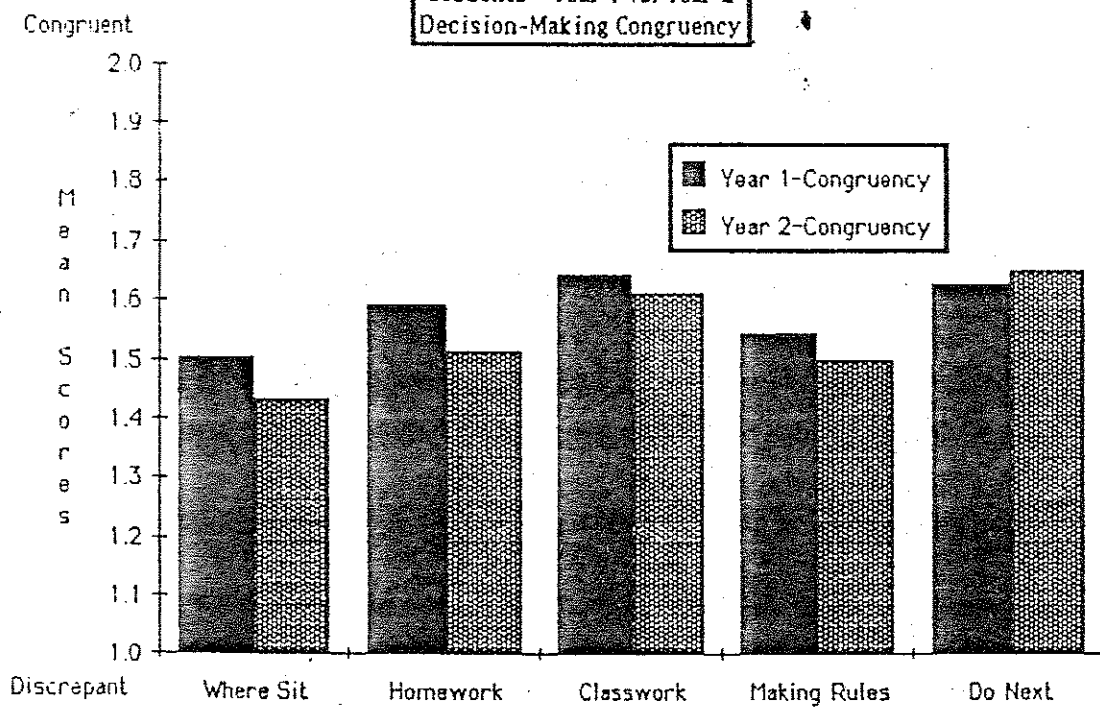
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Students - Year 1 vs. Year 2
Actual Decision-Making

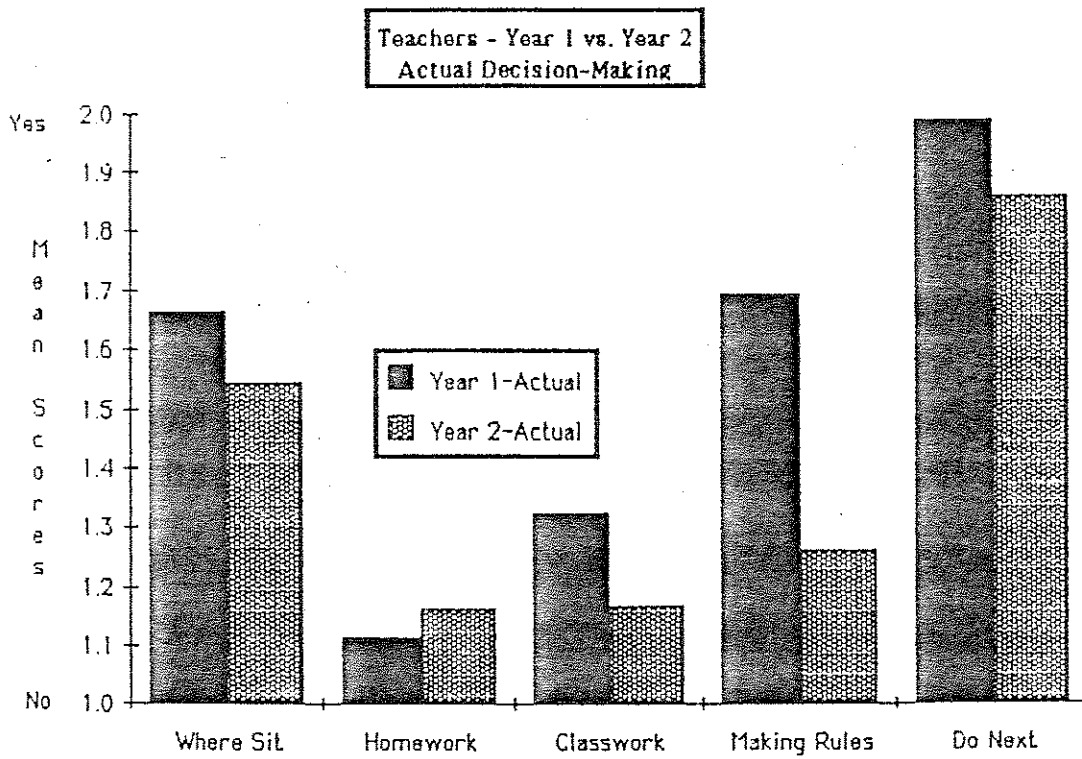


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Students - Year 1 vs. Year 2
Decision-Making Congruency

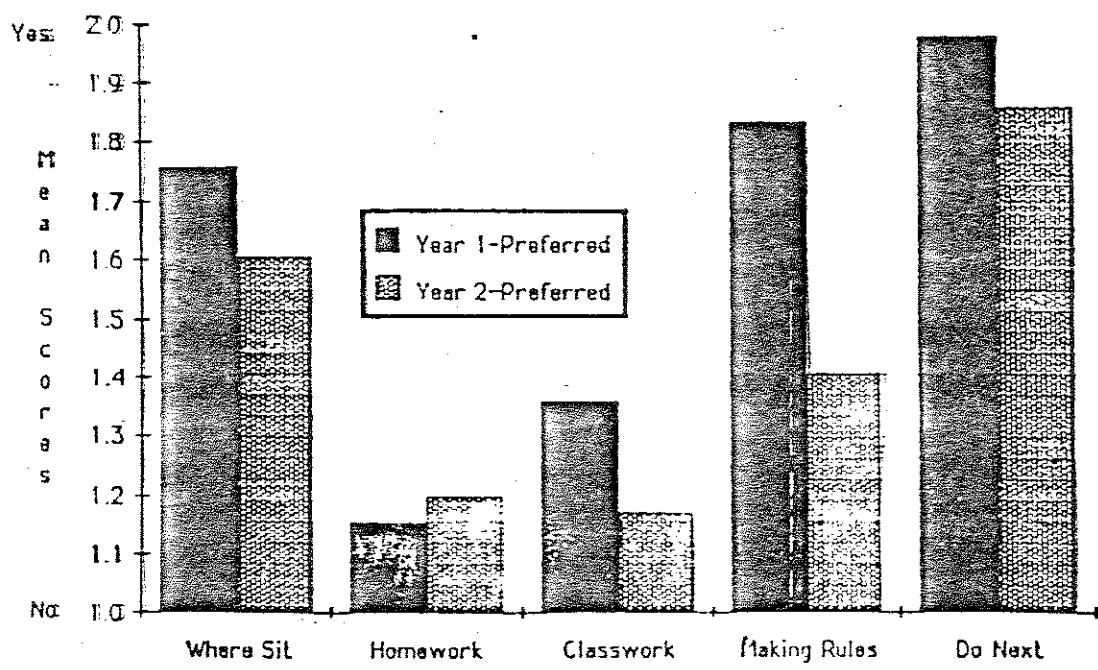


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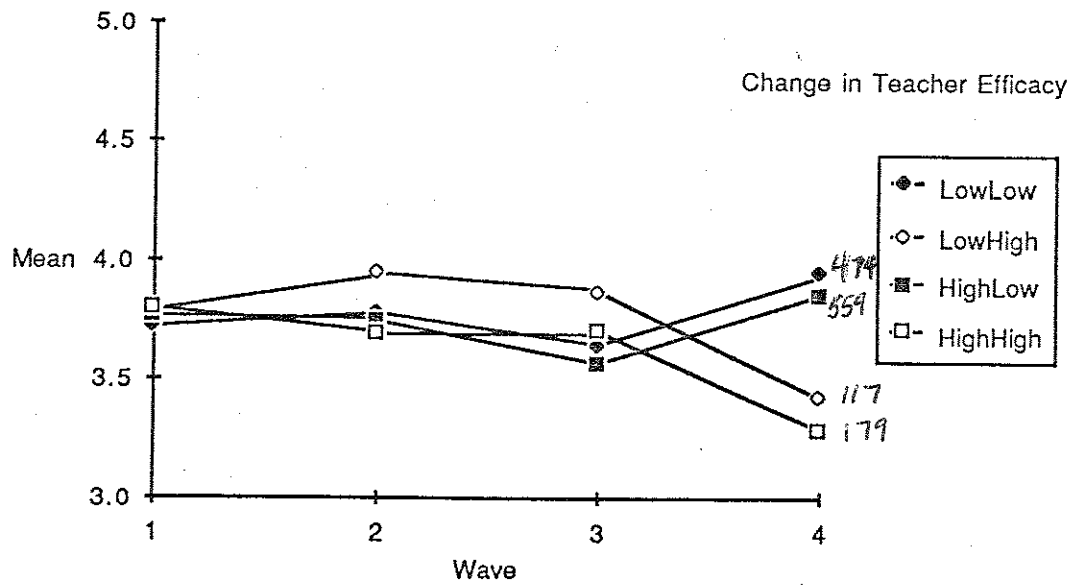
*Note. Year one N = 117; Year two N = 137;
N's vary due to missing data on some items.*

Teachers - Year 1 vs. Year 2
Preferred Decision-Making

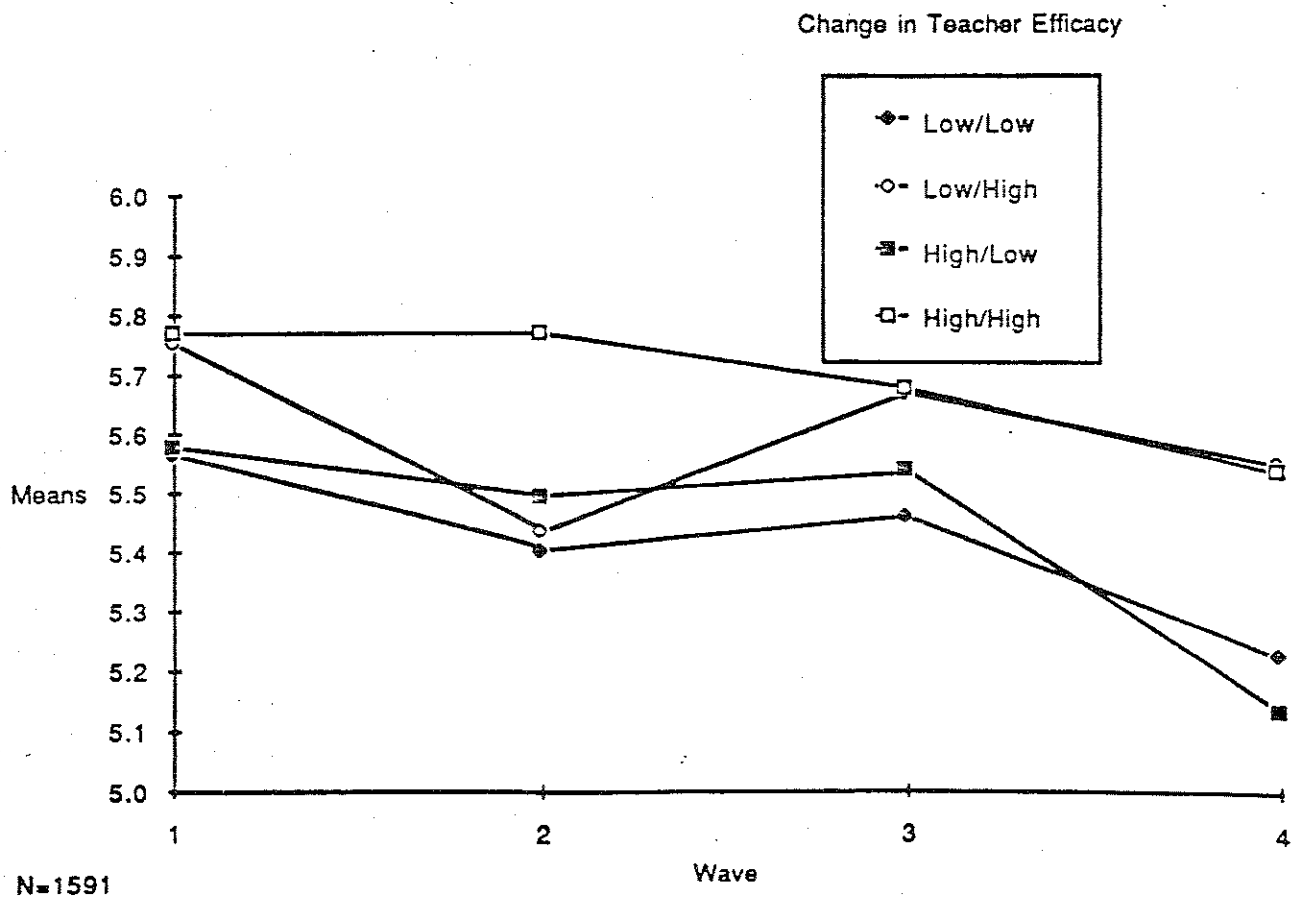


*Note. Year one N = 117; Year two N = 137;
N's vary due to missing data on some items.*

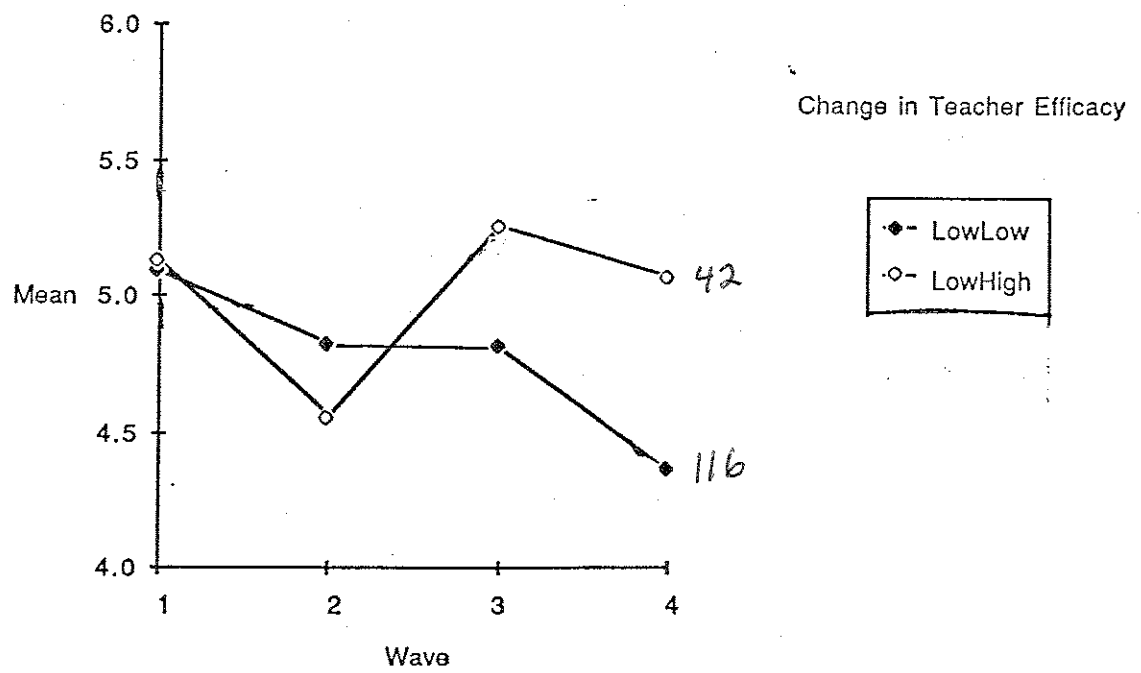
PERCEIVED TASK DIFFICULTY



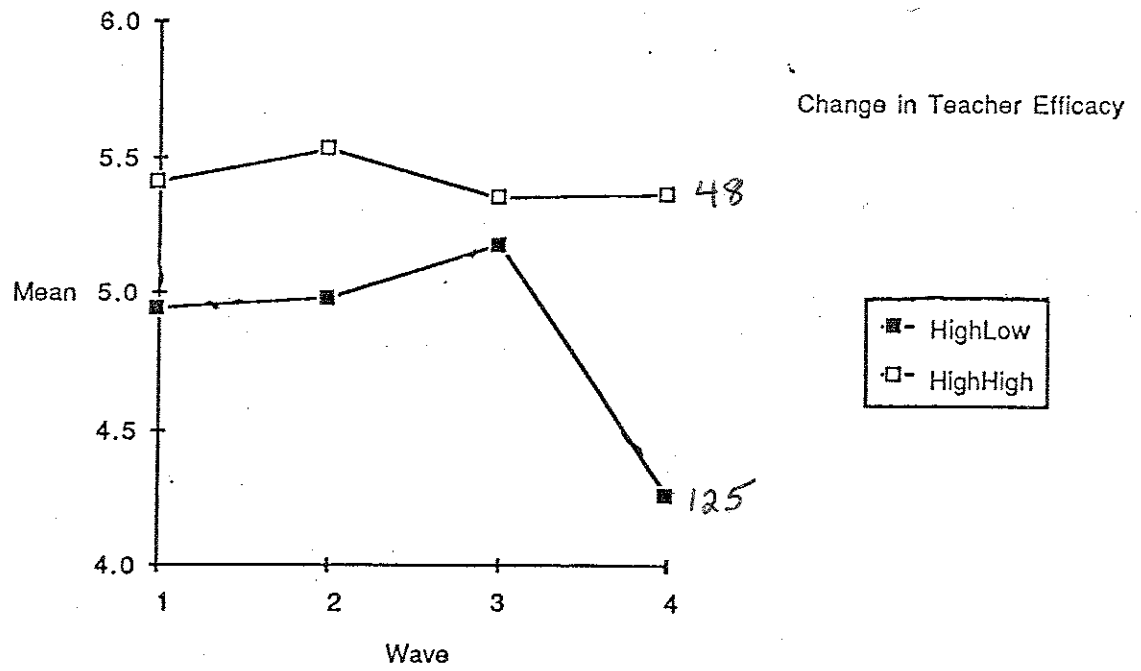
PERCEIVED EXPECTANCIES IN MATHEMATICS



PERCEIVED EXPECTANCIES IN MATHEMATICS
FOR LOW ACHIEVING STUDENTS



PERCEIVED EXPECTANCIES IN MATHEMATICS
FOR LOW ACHIEVING STUDENTS



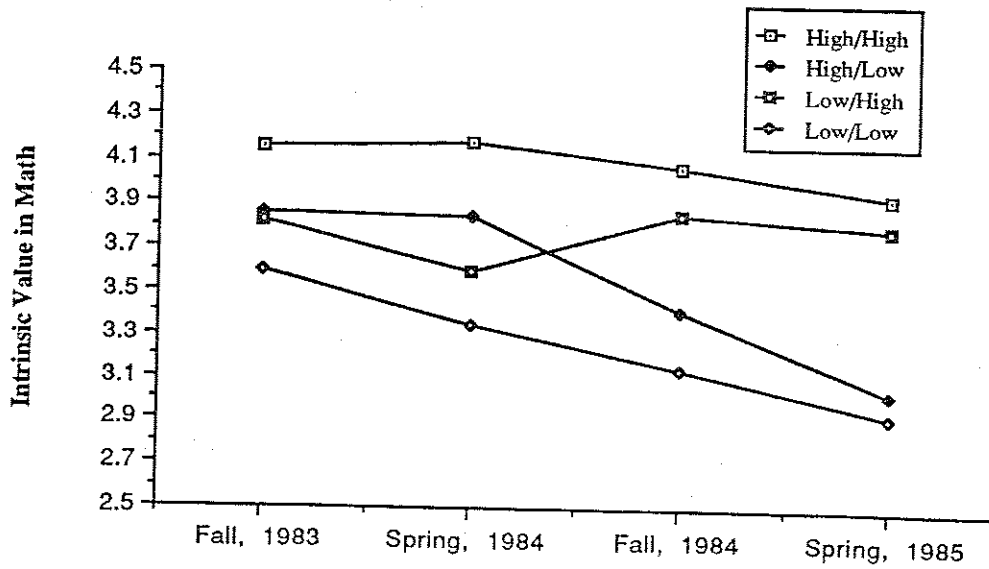


Fig. 1 Intrinsic Value in Math and Change in Teacher Support