Developmental Mismatch and the Junior High School Transition[1]

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Presented at the Biannual Meeting of
The Society for Research on Adolescence
Alexandria, VA
March 1988

Several investigators suggest that there are general developmental declines in such motivational constructs as: interest in school (Epstein & McPartland, 1976); intrinsic motivation (Harter, 1982); 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, 1988. The major changes are listed on Figure 1. Some on 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.

INSERT FIGURES 1 AND 2

Some of these changes are especially marked at the junior high school transition. For example, our data (see Figure 3) 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). Figure 4 illustrates the decline in intrinsic motivation reported by Harter (1981). As you can see, there is a sharp drop in students' preference for challenge and their preference for independent mastery as they move from the sixth to the seventh grade.

INSERT FIGURES 3 AND 4

Figure 4, taken from Simmons and Blyth, 1987, illustrates the junior high transition effect on girls even more dramatically. Simmons and Blyth (1987) compared children moving from sixth to seventh grade in a K-8 system to children making the same transition in a K-6, 7-9, 10-12 school system. Girls moving into a traditional junior high school show a more marked decline in their self-esteem than girls who remain in the same school building. Several other studies, including Harter, 1982 and Connell & Tero 1982, report declines that seem to be associated with the junior high school transition. The findings regarding this transition are summarized on Figure 1 and in Eccles and Midgley, 1988. 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, 1988; 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 (Parsons) 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 environmnent that is important. Image 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 orgainzational, instructional, and climate variables, including task structure, task complexity, grouping practices, evaluation techniques, motivatinal 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 also typically experience 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. These changes are summarized on Figures 5 and 6.

INSERT FIGURES 5 AND 6: GENERAL AND SPECIFIC CHANGES IN EDUCATIONAL ENVIRONMENT

In turn, we believe that these changes are particularly harmful at early adolescence given what we know about adolescent development. Figure 7 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.

INSERT FIGURE 7: DEVELOPMENTAL CHANGES

In light of these needs, the environmental changes often associated with the transition to junior high school seem 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 at 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 3 years testing these hypotheses. The work I'll now report reflects the efforts of the colleagues I listed earlier as well as my own. As I described earlier, we have gathered 4 waves of data on approximately 3500 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 transtion to junior high school involves a move from a small, informal, relatively homogeneous school to a more buracartic 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.

INSERT FIGURE 8: TEACHER BELIEFS

What did we find? The results for the teacher control, teacher trust, and teacher efficacy variables are illustrated in Figure 8 which depicts the results from an analysis by Midgely, Feldlaufer, and Eccles (1987). 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, seveth grade teachers rate students as less trustworthy that 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 an teachers. Seventh grade teachers were seen as less fair and less friendly by both groups (Feldlaufer, Midgley, & Eccles, 1987).

The results for changes in ability-focusing experiences is illustrated in Figure 9. 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 9.

INSERT FIGURE 9: CLASSROOM ENVIRONMENT DIFFERENCES

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 two of these changes: Changes in autonomy and control and changes in teachers' feelings of efficacy.

Autonomy and decision making

Midgley and Feldlaufer (1986) compared the students' view of their autonomy as they moved from sixth to seventh grade, using a set of item developed by Lee and his colleagues (Lee, Statuto, & Kedar-Voivodas, 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 Figures10-13.

INSERT FIGURES 10-13: 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 10). 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 11). 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 12). 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 Figure 13) as well reporting greater concern over student control on the attitude measures discussed earlier.

How might such a widening mismatch between the students' desire for automony and their perceptions of their opportunity for automony affect motivation? Person-Environment Fit theories suggest that a mismatch between one's needs and the environmental affordances will lead to decline in moitvation and engagement. MacIver, 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 theirown 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. We will test this hypothesis in the near future.

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.

INSERT FIGURES 14 AND 15: 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 14 and 15 depicting the students' ratings of the modifiability of math ability and of their expectations for their own performance.

SUMMARY AND CONCLUSIONS

In summary, I have made the following three points in this talk:

1. There are student attitudes and beliefs that affect motivational outcomes and these decline as students move into traditional junior high schools.

2. Understanding changes in motivation depends on our understanding of the interaction between changing student characteristics and the changes in the characteristics of the educational environments they inhabit and/or confront as they move from one educational institution to another.

3. Some "motivational problems" associated with junior high school students result from the mismatch between the individuals' characteristics and needs, and the characteristics of particular educational environments they inhabit.

I would like to close with one additional point: These "motivational problems" are amenable to educational intervention. There are concrete examples of successful educational programs and environments for early adolescents. The success of these programs stems, in part, we believe, from their impact on the degree of perceived mismatch between the needs of the individual students and the educational environments they find themselves in.

Footnotes

This research was made possible by grants from the National Institute of Mental Health (MH31724 to Jacquelynne S. Eccles), the National Institute of Child Health and Human Development (HD17296 to Jacquelynne S. Eccles), the National Science Foundation (BSN-8510504 to Jacquelynne S. Eccles and Allan Wigfield) and the William T. Grant Foundation (83-0917-00 to Jacquelynne S. Eccles).
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REFERENCES

Blyth, D. A., Simmons, R. G., Carlton-Ford, S. (1983). The adjustment of early adolescents to school transitions. Journal of Early Adolescence, 3, 105-120.

Connell J. P. & Tero, P. F. (1982). Aspects of continuity and change in children's self-regulated cognitions and affects within the academic domain. Unpublished manuscript, University of Rochester.

Eccles, J. S., & Midgley, C. M. (1988). Stage/environment fit: Developmentally appropriate classrooms for early adolescents. In R. E. Ames & C. Ames (Eds.),Research on motivation in education: Classroom influences, Vol. 3. NY:Academic Press.

Eccles, J. , & Midgley, C. & Feldlaufer, H. (1985). Junior high transition. SRCD Symposium paper, Toronto.

Eccles (Parsons), J. , Adler, T. F. , Futterman, R. , Goff, S. B., Kaczala, C. M. , Meece, J. L. , & Midgley, C. (1983). Expectations, values and academic behaviors. In J. T. Spence (Ed.), Achievement and achievement motivation. San Fransisco, W. H. Freeman.

Eccles (Parsons), J., Midgley, C. , & Adler, T. F. (1984) . Age related changes in the school environment: Effects on achievement motivation. In J. H. Nicholls (Ed.) The Development of Achievement Motivation. Greenwich, CN: JAI Press, Inc.

Eccles (Parsons), J., & Wigfield, A. (1984) . Student expectancies and motivation. In J. B. Dusek (Ed.), Teacher Expectancies. Hillsdale, NJ: Laurence Erlbaum Associates, Inc.

Epstein, J. L., & McPartland, J. M. (1976). The concept and measurement of the quality of school life. American Educational Research Journal, 13, 15-30.

Feldlaufer, H. , Midgley, C. , & Eccles, J. S. (1987). Student, teacher, and observer perceptions of the classroom environment before and after the transition to junior high school. Symposium paper, AREA, Washington, D. C. , April.

Harter, S. (1981) . A new self-report scale of intrinsic versus extrinsic orientation in the classroom: Motivational and information components. Developmental Psychology, 17, 300-312.

Harter, S. (1982). The Perceived Competence Scale for Children. Child Development, 53, 87-97.

Harter, S., Whitesell, N., & Kowalski, P. (1987) .The effects of educational transitions in children's perceptions of competence and motivational orientation. Unpublished manuscript, University of Denver.

Lee, P., Statuto, C., & Kedar-Viovodas, G. (1983). Elementary school children's perceptions of their actual and ideal school experiences: A developmental study. Journal of Educational Psychology, 75, 838-847.

MacIver, D., Klingel, D., & Reuman, D. (1986, April). Students' and teachers' decision-making congruence in mathematics classrooms: A person-environment fit analysis. Paper presented at the meeting of the American Educational Research Association, San Francisco.

Midgley, C., & Feldlaufer, H. (1987). Students' and teachers' decision-making fit before and after the transition to junior high school. Journal of Early Adolescence, 7, 225-241.

Midgley, C. M., Feldlaufer, H., & Eccles, J. S. (1987) Changes in teacher efficacy and student self- and task-related beliefs during the transition to junior high school. Submitted for review.

Midgley, C. M., Feldlaufer, H., & Eccles, J. S. (1987) The transition to junior high school: Changes in student, teacher, and observer perception of the classroom. Journal of Youth and Adolescence, in press.

Rosenholtz, S J., & Simpson, C. (1984) . The formation of ability conceptions; Developmental trend in social construction. Review of Educational Research, 54, 31-63.

Simmons, R. G., & Blyth, D.A. (1987). Moving into adolescence: The impact of pubertal change and school context. Hawthorn, NY: Aldine de Gruyler.

Wigfield, A. & Eccles, J. S. (1988). Test anxiety in the school setting. In M.Lewis & S. M. Miller (Eds.), Handbook of Developmental Psychopathology. New York: Plenum Press.

Figure 1

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

Figure 2

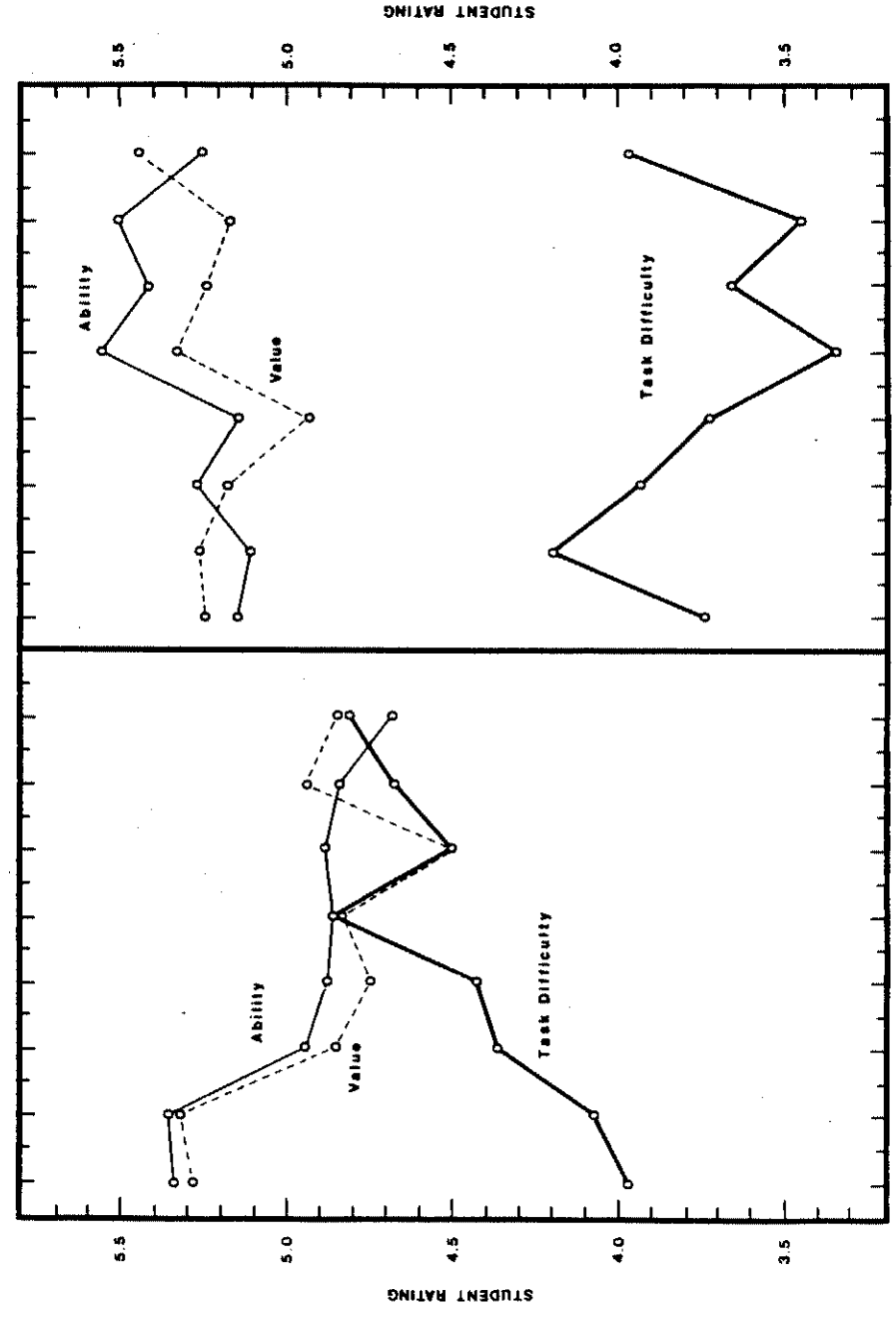


Figure 3

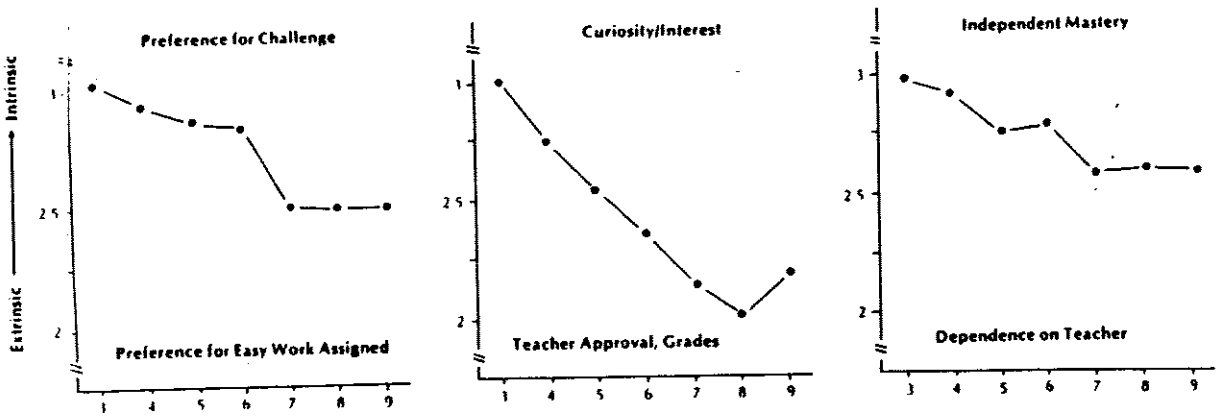
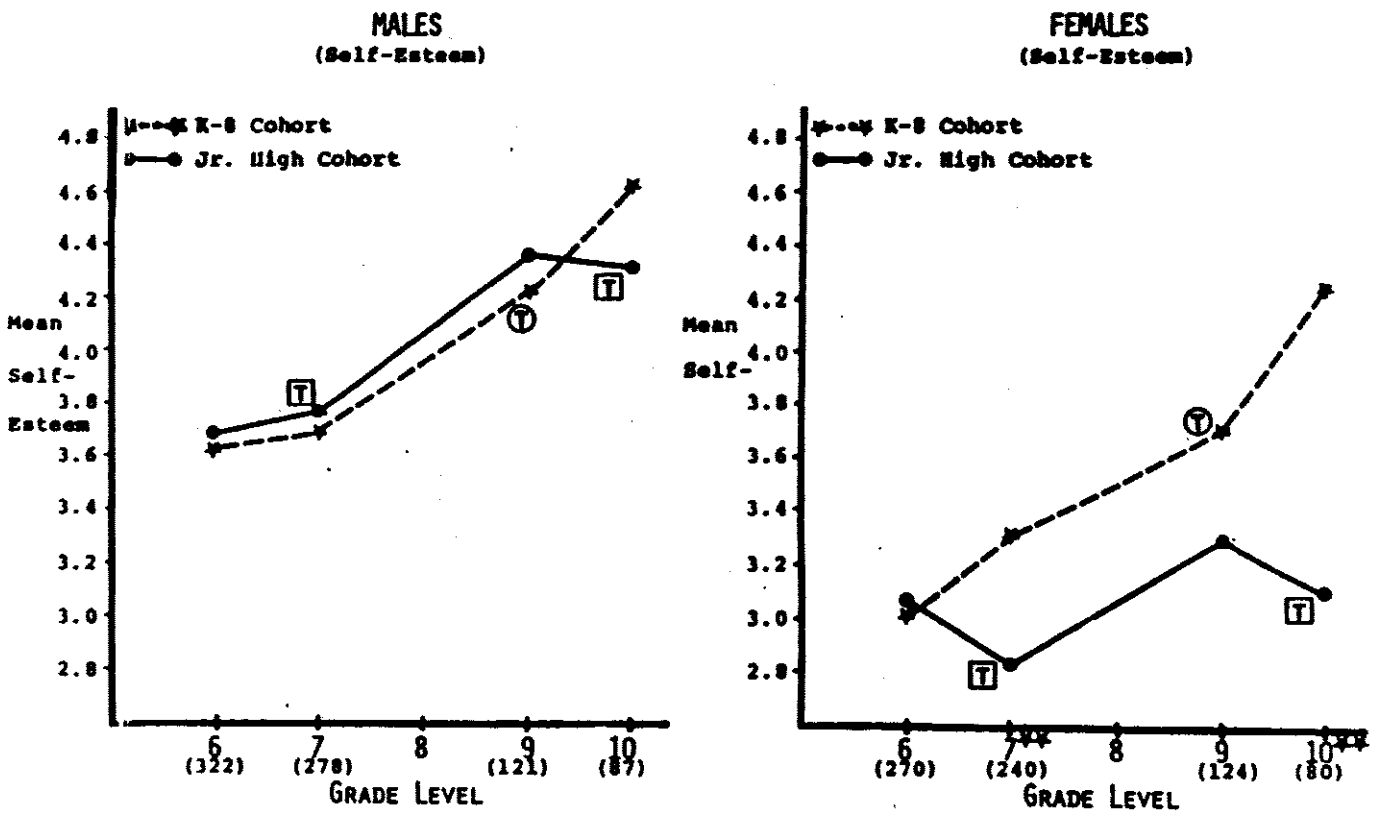


FIGURE 4 Mean Self-Esteem From Grade 6 to Grade 10 by School Type for Each Sex Separately

The symbol [T] indicates a year of transition for the Jr. High Cohort;
(T) indicates a year of transition for the K-8 Cohort.



Note: Although the study is longitudinal, there is a decreasing N for each grade level due to sample loss.

Figure 5

Environmental Changes associated with Junior High School Transition

General Changes

- Move to Larger, More Bureaucratic Institution
  - Departmentalized Instruction
  - Multiple Teachers
  - Greater Anonymity
  - Increased Student Load for Teachers
- Disruption of Friendship Networks
- Exposure to Broader Range of Individuals
- Reduced Family Involvement

Figure 6

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

Figure 7

DEVELOPMENTAL CHARACTERISTICS OF EARLY ADOLESCENTS

Increased Desire for Autonomy

Increased Salience of Identity Issues

Continuing Need for Safe Environment in which to explore Autonomy and Identity

Increased Peer Orientation

Increased Importance of Heterosexuality

Increased Self-Focus and Self-Consciousness

Increased Cogntive Capacity with Movement toward Formal Operational Thought

Physical and Hormonal Changes Associated with Pubertal Development

Figure 8

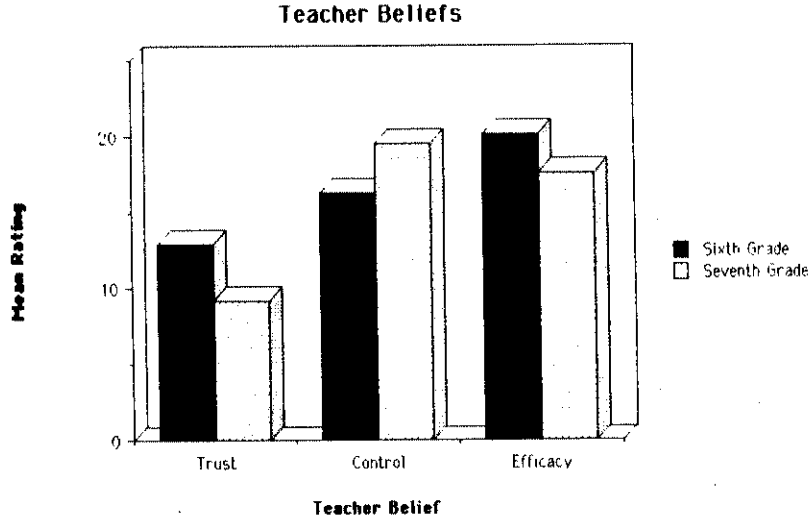


Figure 9

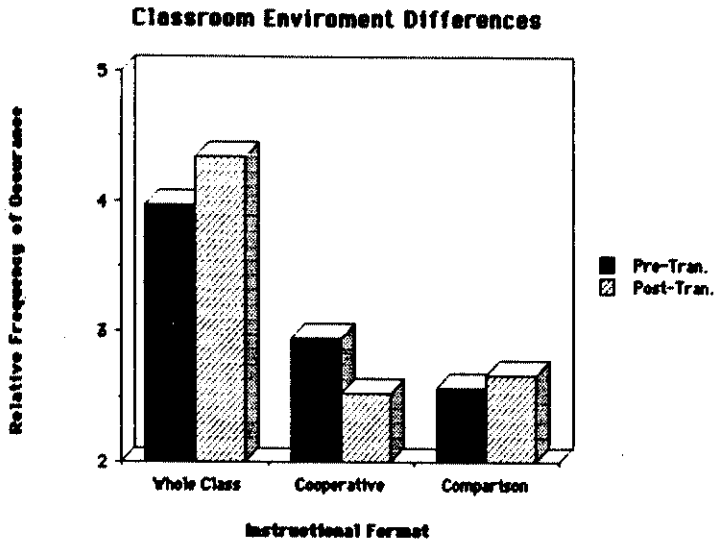
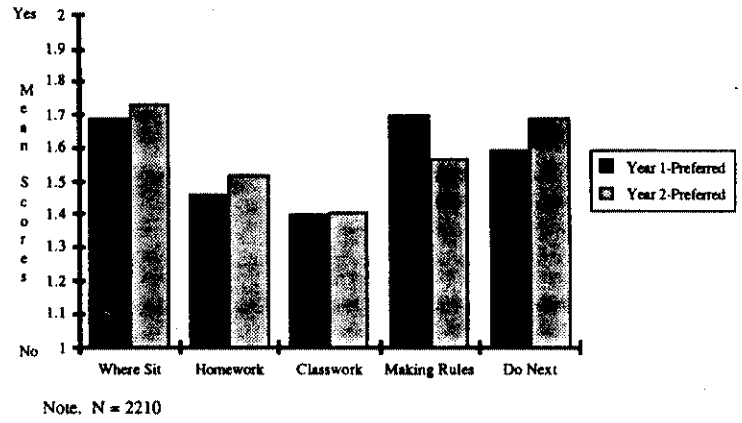


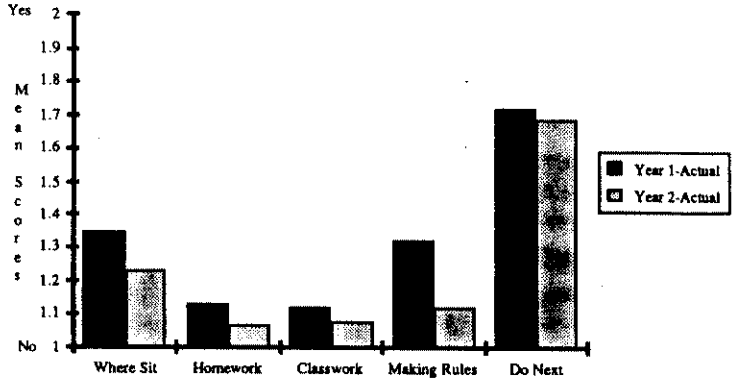
Figure 10



Note. N = 2210

Fig. 6. Students - Year 1 versus Year 2 Preferred Decision-Making

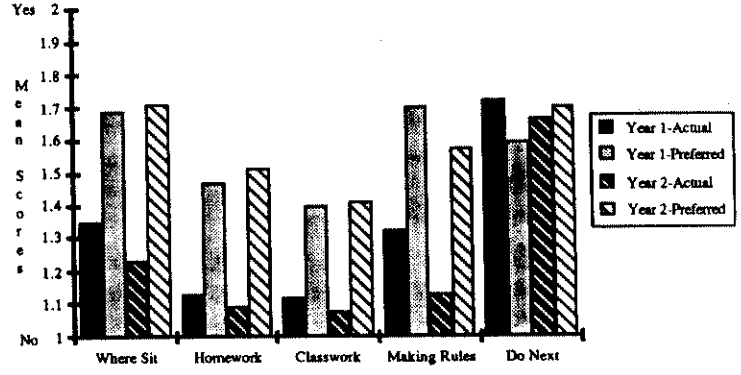
Figure 11



Note. N = 2210

Fig. 3. Students - Year 1 versus Year 2 Actual Decision-Making

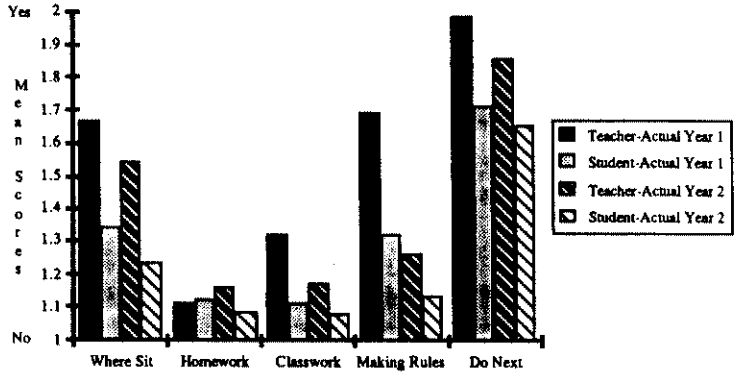
Figure 12



Note. N = 2210

Fig. 2. Student Actual versus Preferred Decision-Making

Figure 13



Note. Year 1 Classroom N=117; Year 2 Classrrom N=137; student scores were aggregated to the classroom level using within classroom means.

Fig. 1. Teacher versus Student Actual Decision-Making

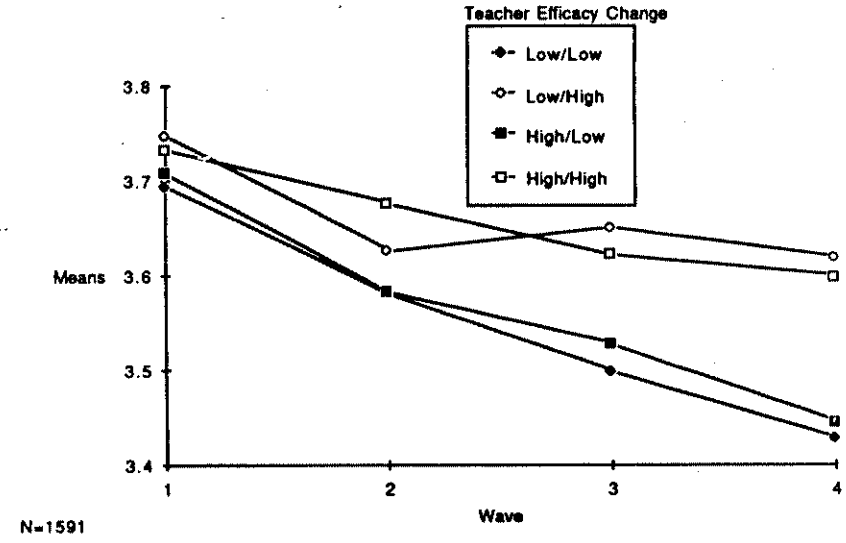
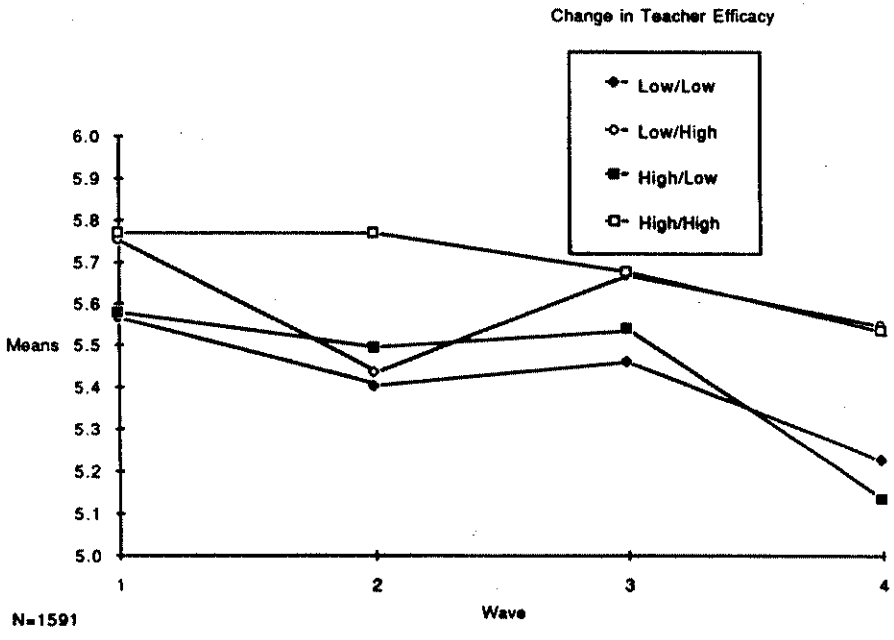
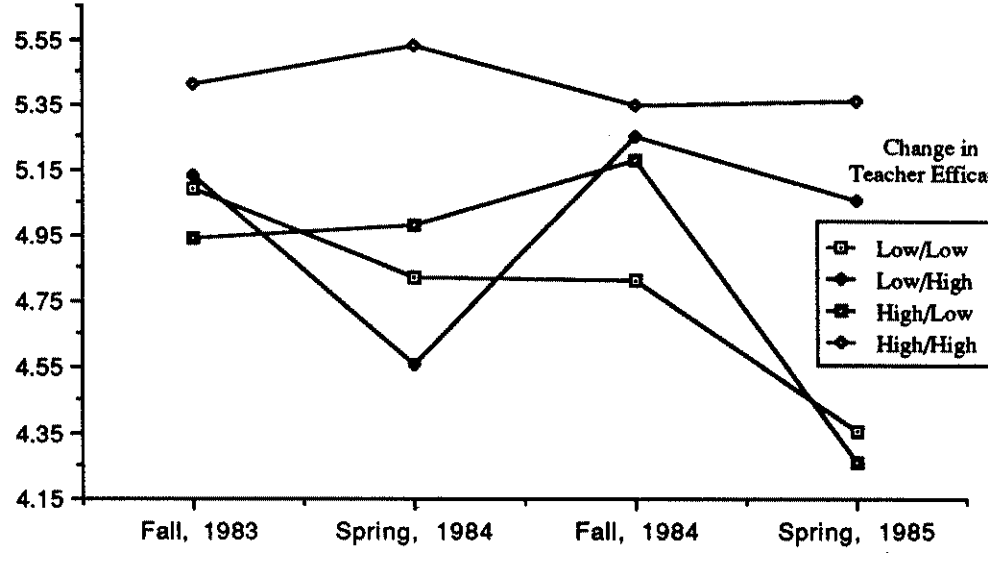


Figure 14

Figure 15

PERCEIVED EXPECTANCIES IN MATHEMATICS





Expectancies in Math and Change in Teacher Efficacy for Low Achieving Students