6. Changes in Academic Motivation and Self-Perception During Early Adolescence

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There has been growing concern with adolescence as a time of risk. By whatever criteria one uses, a substantial portion of America's adolescents are not succeeding: Between 15% and 30% (depending on ethnic group) drop out of school before completing high school; adolescents have the highest arrest rate of any age group; and increasing numbers of adolescents consume alcohol and other drugs on a regular basis (Office of Educational Research and Improvement, 1988). Many of these problems appear to begin during the early adolescent years (Carnegie Council on Adolescent Development, 1989). Why? Is there something unique about this developmental period that puts individuals at risk as they pass through it? In this chapter, we look more closely at this question as it pertains specifically to the academic life of early adolescents. Consistent with the view elaborated by Higgins and Parsons (1983), we suggest that the unique transitional nature of early adolescence results, at least in part, from an interaction between developmental changes in the individuals and structural changes in the social environments, in particular the schools, that the individuals pass through as they move from childhood into adulthood.

Evidence from a variety of sources suggests that the early adolescent years mark the beginning of a downward spiral that leads some adolescents to academic failure and school dropout. For example, Simmons and Blyth (1987) found a marked decline in early adolescents' school grades as they move into junior high school. Furthermore, the magnitude of this decline was predictive of subsequent school failure and drop out. Although the junior high school transition effects are not so extreme for most adolescents, there is sufficient evidence of gradual decline in various indicators of academic motivation and self-perception over the early adolescent years to make one ask why (see Eccles & Midgley, 1989, for review).

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A variety of explanations have been offered to explain these negative changes: Some have suggested that declines such as these result from the intrapsychic upheaval assumed to be associated with early adolescent development (e.g., Blos, 1965). These views assume that there is something unique about early adolescence that leads to an increase in motivational and behavioral problems and that this something is located within the developing adolescent.

Others have suggested that it is the coincidence of the timing of the junior high school transition with pubertal development that accounts for the decline (e.g., Blyth, Simmons, & Carlton-Ford, 1983; Simmons & Blyth, 1987). Drawing upon cumulative stress theory, these theorists suggest that declines in motivation result from the multiple stressors of pubertal development combined with a major school transition. They suggest that pubertal development is itself stressful because it is associated with major biological, morphological, and social changes. Similarly, making a major school transition is stressful because it also involves many changes. Compounding these sources of stress is likely to result in negative motivational outcomes.

We have suggested that the quality of the junior high school environment is probably the most powerful explanation for the declines. Drawing upon Person-Environment Fit theory, we have proposed that these declines could result from the fact that junior high schools are not providing developmentally appropriate educational environments for early adolescents (Eccles, Midgley, & Adler, 1984; Eccles & Midgley, 1989). According to Person-Environment Fit theory, motivation and mental health can best be understood if one looks at the fit between the characteristics individuals bring to their social environments and the characteristics of these social environments. Specifically, the fit between the needs and motivational orientation of the individuals on the one hand, and the demands and characteristics of their social environments on the other, is assumed to influence motivation and mental health. Individuals are not likely to do very well if they are in social environments that do not fit their psychological needs. In this chapter, we use this perspective to analyze the developmental declines in academic motivation and self-perceptions as-

sociated with early adolescent development. Specifically, we suggest that there is a mismatch between the developing needs of early adolescents and the typical kinds of environmental changes they experience when they make the transition to junior high school.

Several investigators have stressed how crucial the junior high years are for individual development (Hamburg, 1974; Lipsitz, 1981) both because of the developmental tasks confronting the early adolescent and because of the amount of time early adolescents must spend in this environment. At the same time, many have bemoaned the quality of the junior high school environment: For example, according to Charles Silberman (1970), "the junior high school, by almost unanimous agreement, is the wasteland—one is tempted to say cesspool—of American education" (pg. 324). What is likely to happen when we put developing adolescents into these "wastelands"? This is the focus of this chapter.

ACADEMIC MOTIVATION, SELF-PERCEPTIONS, AND CLASSROOM ENVIRONMENTS: JUNIOR HIGH SCHOOL TRANSITION EFFECTS

General Developmental Changes

Several investigators suggest that there are general developmental declines in such motivational constructs as: interest in school (Epstein & McPartland, 1976); intrinsic motivation (Harter, 1982); self-concepts/self-perceptions (Eccles et al., 1984; Simmons, Blyth, Van Cleave, & Bush, 1979), and confidence in one's intellectual abilities, especially following failure (Parsons & Ruble, 1977; Parsons, 1982). There have also been reports of age-related increases in such negative motivational characteristics as test anxiety (Hill, 1980), learned helpless responses to failure (Rholes, Blackwell, Jordan, & Walters, 1980), focus on self-evaluation rather than task mastery (Nicholls, 1980), and truancy and school dropout (Rosenbaum, 1976). (See Eccles et al., 1984, for full review.)

Although studies of developmental changes in motivation and self-perception during the early adolescent period are not entirely consistent, several studies report that the types of developmental changes outlined above are especially marked in conjunction with the junior high school transition (Eccles et al., 1984). For example, we have found a marked discontinuity in the rate of change in attitudes toward

math between grades 6 and 7 when the children moved from elementary school to junior high school: There is a dramatic drop in the adolescents' confidence in their math abilities and interest in learning mathematics. Similar discontinuities are evident in the work of Harter (1981, 1982) and Simmons and her colleagues (Simmons & Blyth, 1987). Harter (1981), for example, reports a sharp drop in students' preference for challenging as opposed to easy work and for independent mastery as opposed to getting good grades between the sixth and the seventh grade—before and after the transition to junior high school.

The possible negative impact of school transition at this period is well illustrated by the work of Simmons and her colleagues who have compared children moving from sixth to seventh grade in a K-8, 9-12 system to children making the same transition in a K-6, 7-9, 10-12 school system. This work unconfounds the conjoint effects of age and transition operating in most developmental studies of this age period. These researchers find clear evidence of school transition effects but the exact nature of these effects and the groups of students most affected varies somewhat across studies. In general, however, girls seem more at risk for negative consequences of the junior high school transition than boys. For example, in Simmons and Blyth (1987), 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; no comparable school transition effect was found for boys' self-esteem.

These studies, and others like them, suggest that something unique may be going on during early adolescence and that it may interact 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 (Blyth et al., 1983; Eccles et al., 1984; Eccles & Midgley, 1989; Simmons & Blyth, 1987). Simmons and her colleagues proposed the first such hypothesis. Given the sex difference in the transition effect, they focused on the timing issue. Drawing on cumulative stress theory, they argued that the timing of the transition to junior high school should result in more disruption to individuals 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).

If the timing of the transition is the critical factor, then when is the timing good or bad and for whom? Investigators who have sought to

replicate and extend Simmons' work have compared the effects of school transitions at different grade levels. The results of these studies are largely inconsistent and inconclusive. Thornburg and Jones (1982) compared students who moved up a grade level within the same school to students who entered a new school structure. Students who moved to a new school at sixth grade had lower self-esteem than sixth grade students who did not make a school transition, while at seventh grade there were no significant differences in self-esteem for groups that did or did not make a school transition. They concluded that school transitions occurring at lower grade levels are more likely to affect early adolescent self-esteem adversely than school transitions at higher grade levels. Nottelmann (1987) conducted a longitudinal study comparing the effects on self-esteem of movement from grades 5 to 6, and grades 6 to 7 in both transition and nontransition groups. She predicted that there would be less disturbance following the earlier school transition because the children would not be experiencing the simultaneous stress of physical development and movement to a new school environment. Not only was this hypothesis not substantiated, but in contrast to the Simmons and Blyth findings, Nottelmann found that self-esteem was higher in transition groups than in nontransition groups. Petersen, Ebata, and Graber (1987) came up with the remarkable finding that children who make two consecutive school transitions experience greater long-term gains in self-image than children who make a single transition from fifth to sixth or sixth to seventh.

Why are these findings so inconsistent? Are some other variables contributing to the effects that are attributed to time of transition? We believe that these studies are inconsistent because they do not take into account what is going on in the classroom and in the school before and after the transition. Perhaps the children in one study are moving into a less facilitative environment than children in another study. How did the junior high school environment in the Simmons and Blyth study, for example, compare to the middle and junior high school environment in the Nottelmann study? When children moved from elementary school to middle school or junior high school in the Nottelmann study, did they experience similar types of environmental changes? Was there something about the junior high school classroom environment in the Simmons and Blyth study that was particularly detrimental to pubertal girls? Perhaps there was an increase in competition or ability assessment that contributed to the

effects and perhaps this was not the case in the Nottelmann study. Why did the children in the Petersen et al. study who made two transitions within a relatively short period of time end up with a more positive self-image than children who did not? Did they move into innovative programs?

We believe that the *nature* of the transition, as well as the timing must be considered. This means being attentive to changes in both the school and classroom environment. In addition, we believe that the kinds of changes that children normatively experience during the transition to junior high school must be viewed from at least two perspectives: the standard environmental influences approach and a developmental variant on the person-environment fit paradigm, or as we have called it, the *stage/environment fit* approach (see Eccles & Midgley, 1989). Let us discuss each of these in turn.

General Environmental Influences

Work in a variety of areas has documented the impact of various classroom and school environmental characteristics on motivation. For example, the big-school/small-schools literature has demonstrated the motivational advantages of small schools especially for marginal students (Barker & Gump, 1964). Similarly, the teacher efficacy literature has documented the positive student motivational consequences of high teacher efficacy (Brookover, Beady, Flood, Schweitzer, & Wisenbaker, 1979). Finally, organizational psychology has demonstrated the importance of participatory work structures on worker motivation (Lawler, 1976). The list of such influences could, of course, go on for several pages. The point is that there may be systematic differences between typical elementary classrooms and schools, and typical junior high classrooms and schools, and that these differences may account for some of the motivational changes we see in early adolescents as they make the transition into junior high school or middle school. If so, then some of the motivational problems we see at early adolescence may be a consequence of the type of school environment changes we force them to adapt to rather than characteristics of the developmental period per se. Higgins and Parsons (1983) made a similar argument, suggesting that some of the changes we attribute to stagelike developmental processes may, instead, reflect systematic changes in the social environments and social cultures we provide for our children as they grow up.

Stage-Environment Fit

A more thought provoking analysis of the possible environmental causes of the motivational changes associated with the junior high school transition draws on the idea of person-environment fit. Such a perspective leads one to expect negative motivational consequences for individuals when they are in an environment that does not fit well with their needs (Hunt, 1975; Lewin, 1935). At the most basic level, this perspective suggests that we look at the fit between the needs of early adolescents and the opportunities afforded them in the traditional junior high school environment. A poor fit would help explain the declines in motivation associated with the transition to junior high school.

An even more interesting way to use the person-environment fit perspective is to put it into a developmental framework. Hunt (1975) argued for the importance of adopting a developmental perspective on person-environment fit in the classroom. To quote him: "Maintaining a developmental perspective becomes very important in implementing person-environment matching because a teacher should not only take account of a student's contemporaneous needs by providing whatever structure he presently requires, but also view his present need for structure on a developmental continuum along which growth toward independence and less need for structure is the long-term objective" (Hunt, 1975, p. 221). He was suggesting that teachers should provide the optimal level of structure for children's current levels of maturity, while at the same time providing a sufficiently challenging environment to pull the children along a developmental path toward higher levels of cognitive and social maturity.

But what we find especially intriguing about this suggestion is its application to an analysis of the motivational declines associated with the junior high school transition. If we accept the notion that different types of educational environments may be needed for different age groups in order to meet developmental needs and to foster continued developmental growth, then it is also possible that some types of changes in educational environments may be especially inappropriate at certain stages of development, for example, the early adolescent period. That is, they may be "developmentally regressive." Exposure to such changes at this age could lead to a particularly poor person-environment fit, and this lack of fit could account for some of the declines in motivation we see at this developmental period. Specifically, there may be a mismatch between the developing needs

of the early adolescent and the opportunities afforded them by the junior high school environment.

In essence, 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 early adolescent 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 synchrony with one another; that is, 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 other words, transition to a facilitative and developmentally appropriate environment, even at this vulnerable age, should have a positive impact on children's perceptions of themselves and their educational environment. In contrast, negative motivational consequences will result if the two trajectories are out of synchrony. In this case, transition into a developmentally inappropriate educational environment should result in the types of motivational declines that have been identified as occurring with the transition into junior high school. This should be particularly true if the environment is developmentally regressive; that is, if it affords the children fewer opportunities for continued growth than previous environments.

This analysis immediately raises a set of researchable theoretical and descriptive questions. First, what are the developmental needs of the early adolescent? Second, what kind of educational environment would be developmentally appropriate in terms of both meeting these needs and stimulating further development? Third, what are the most common changes in the academic environment before and after the transition to middle or junior high school. Finally, and most importantly, are these changes compatible with the physiological, cognitive, and psychological changes early adolescents are experiencing? Or is there a developmental mismatch between maturing early adolescents and the classroom environments they experience before and after the transition to junior high school—a mismatch that results in a deterioration in academic motivation and performance for some children?

We believe that there are 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. These changes contribute to the negative

change in students' motivation and achievement-related beliefs assumed to coincide with the transition into junior high school. Unfortunately, we have been unable to locate very much well-controlled research with which to test these hypotheses.

Remarkably few empirical studies have focused on differences in the classroom or school environment across grades or school levels. Most descriptions have focused on school-level characteristics such as school size, degree of departmentalization, extent of bureaucratization, and so forth. Although differences in these characteristics can have important effects on teacher beliefs and practices, which, in turn, can have an effect on student alienation and motivation, these linkages have rarely been assessed.

Most attempts to assess the classroom environment have included only one grade level and have related differences in the environment to student outcomes, particularly scores on achievement tests. Little research has focused on systematic differences in the classroom environment from elementary to junior high school. Thus, we have had to piece together information from a variety of sources, looking for converging evidence for the types of negative environmental changes we predicted (see Eccles & Midgley, 1989). Five patterns have emerged. First, junior high school classrooms, as compared to elementary school classrooms, are characterized by a greater emphasis on teacher control and discipline, a less personal and positive teacher-student relationship, and fewer opportunities for student decision making, choice, and self-management. Second, the shift to junior high school is associated with an increase in practices such as whole-class task organization, between classroom ability grouping, and public evaluation of the correctness of work, each of which may encourage the use of social comparison and ability self-assessment. Third, there is evidence that classwork during the first year of junior high school requires lower level cognitive skills than classwork at the elementary level. Fourth, junior high school teachers feel less effective as teachers, especially for low ability students. Finally, junior high school teachers appear to use a higher standard in judging students' competence and in grading their performance than do elementary school teachers (see Eccles & Midgley, 1989, for details on these studies and references).

We believe that these types of school environmental changes are particularly harmful at early adolescence, given what is known about psychological development during this stage of life. Evidence from a variety of sources suggests that early adolescent development is

characterized by increases in the following: desire for autonomy, peer orientation, self-focus and self-consciousness, salience of identity issues, concern over heterosexual relationships, and capacity for abstract cognitive activity (see Simmons & Blyth, 1987). Simmons and Blyth (1987) have argued that adolescents need a reasonably safe, as well as an intellectually challenging, environment to adapt to these shifts—an environment that provides a "zone of comfort" as well as challenging new opportunities for growth. In light of these needs, the environmental changes often associated with 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 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 relationships outside the home. We believe the nature of these environmental changes coupled with the normal course of individual development results 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, especially for adolescents who are having difficulty succeeding in school academically.

To test these predictions, we have conducted a large-scale two-year, four-wave longitudinal study of the impact of changes in the school and classroom environment on early adolescents' achievement-related beliefs, motives, values, and behaviors. The sample was drawn from 12 school districts located in middle income communities in southeastern Michigan. Because we had found the motivational declines to be most marked in mathematics (Eccles et al., 1983), we focused on this subject area. Mathematics teachers and their students were recruited. A total of 2,501 early adolescents participated at all four waves of the study. Many of these adolescents went from sixth to seventh grade and experienced the junior high school transition during the course of the study. The results reported here focus on this subset of the sample. Questionnaires were administered during the regular period for mathematics instruction for two consecutive days each wave (fall and spring of 1983/84 and fall and spring of 1984/85). In addition, a subset of math classrooms was observed by trained field staff for five consecutive days during late October or November each year.

ENVIRONMENTAL CHANGES BETWEEN SIXTH AND SEVENTH GRADE

Our first goal was to assess differences in the beliefs and behaviors of the teachers the early adolescents had for mathematics before and after the junior high school transition. Several characteristics of the junior high school make it probable that junior high school teachers will hold different beliefs than elementary teachers. Junior high schools are typically larger, less personal, and more formal than elementary schools. Junior high school teachers are often subject matter specialists, and they typically instruct a much larger number of students than do elementary teachers in self-contained classrooms, making it less likely they will come to know their students well, to feel that they are trustworthy, and to grant them autonomy. Junior high school teachers may feel that it is difficult to affect the achievement of a large number of adolescents, especially as they see each of them for a relatively small proportion of the school day, making it difficult for the teachers to sustain feelings of efficacy. Junior high school is often seen as a time to get serious about instruction and performance evaluation. Assigning early adolescents to classes on the basis of their ability, particularly in mathematics, becomes much more frequent (Oakes, 1981). Once students have been assigned to classrooms on the basis of their ability, mobility to another ability level is infrequent (Metz, 1978; Oakes, 1981). This practice, coupled with increasing pressure to grade children on relative performance rather than on improvement or mastery, may engender a belief in teachers that differences in student ability are stable and teacher influences on student achievement are relatively minor. Finally, cultural stereotypes about early adolescence may flourish in schools that serve only this age group. There is evidence that early adolescence is viewed by society as a particularly difficult and unproductive stage of life (Holmbeck & Hill, 1986; Offer, Ostrov, & Howard, 1981). These societal views are not likely to engender feelings of efficacy or trust in those who work with early adolescents.

We compared the beliefs of the teachers our adolescents had for mathematics before and after the transition (see Midgley, Feldlaufer, & Eccles, 1988b, for a full description of this study). The sample included 107 sixth grade elementary teachers and 64 seventh grade junior high teachers. There are fewer seventh than sixth grade teachers because, at the junior high school level, each teacher instructs several sections of math. As predicted, the seventh grade teachers believed

students needed to be disciplined and controlled more than the sixth grade teachers did, using a scale with items such as "it is often necessary to remind students that their status in school differs from that of teachers" and "students should not be permitted to contradict the statements of teachers in class." Similarly, the seventh grade teachers rated students as less trustworthy than did the sixth grade teachers on a scale containing items such as "most students will waste free time if they're not given something to do" and "students can (not) be trusted to correct their own tests." Finally, the seventh grade teachers felt significantly less efficacious than did the sixth grade teachers on a scale including items such as "I am certain I am making a difference in the lives of my students" and "there is really very little I can do to ensure that most of my students achieve at a high level."

Similar patterns emerged for students' and observers' perceptions of the quality of student-teacher relationships before and after the transition (see Feldlaufer, Midgley, & Eccles, 1988, for a complete description). Seventh grade post-transition math teachers were seen as less supportive, friendly, and fair than sixth grade pretransition teachers by both observers and students. In addition, students, teachers, and observers reported an increase, after the transition, in between-classroom ability grouping, whole-class instruction, and social comparison of grades, all of which have been suggested to promote a focus on ability self-perceptions more than a focus on mastering the task (Rosenholtz & Simpson, 1984).

IMPACT OF ENVIRONMENTAL CHANGES ON EARLY ADOLESCENTS' MOTIVATION

Teacher Efficacy

We are now looking at the impact of differences in teacher beliefs and practices before and after the transition on early adolescents' motives, values, beliefs, and behaviors. In a longitudinal study of 1,329 early adolescents and the teachers they had for mathematics before and after the transition to junior high school, we examined the relation between changes in adolescents' self- and task-related beliefs in mathematics and their teachers' sense of efficacy (see Midgley, Feldlaufer, & Eccles, 1989, for a full description of this study). Although the relation between teacher efficacy and student beliefs and attitudes is yet to be firmly established, Brookover et al., (1979) using

schools as the unit of analysis, found negative correlations between teachers' sense of academic futility and students' self-concept of ability and self-reliance. Given these associations, differences in teachers' sense of efficacy before and after the transition to junior high school could contribute to the decline in early adolescents' beliefs about their academic competency and potential.

To assess the impact of change in teacher efficacy on adolescents' beliefs, we divided our adolescent sample into four groups based on median splits of their math teachers' ratings of their personal teaching efficacy. The largest group (559 out of the 1,329 included in these analyses) moved from a high efficacy sixth grade math teacher to a low efficacy seventh grade math teacher. Another 474 adolescents had low efficacy teachers both years, 117 moved from low to high efficacy teachers, and 179 had high efficacy teachers both years. Thus, fully 78% of our sample of children moved to a low teacher efficacy math classroom in the seventh grade. The potential impact of such a shift on the motivation and self-perceptions of early adolescents, especially those having difficulty mastering the academic material is frightening. We know, in particular, that low teacher expectations for students undermine the motivation and performance for low achieving students (Eccles & Wigfield, 1985). Moving from a high to a low efficacious teacher may produce a similar effect.

As predicted, the adolescents who had moved from high efficacy to low efficacy teachers during the transition (the most common pattern) ended their first year in junior high school with lower expectancies for themselves in math, lower perceptions of their performance in math, and higher perceptions of the difficulty of math than the adolescents who had experienced no change in teacher efficacy or who had moved from low to high efficacy teachers. Also as predicted, teacher efficacy beliefs had a stronger impact on the low-achieving adolescents' beliefs than on the high-achieving adolescents' beliefs. The results for the low-achieving adolescents are illustrated in Figure 6.1. By the end of the junior high school year, the confidence that those low-achieving adolescents who had moved from high to low efficacy teachers had in their ability to master mathematics had declined dramatically. We may see here the beginning of the downward spiral in school motivation that eventually leads to school drop out among so many low-achieving adolescents. It is important to note, however, that this same decline was not characteristic of the low-achieving adolescents who had moved to high efficacy seventh grade math teachers, suggesting that the decline is not a general feature of

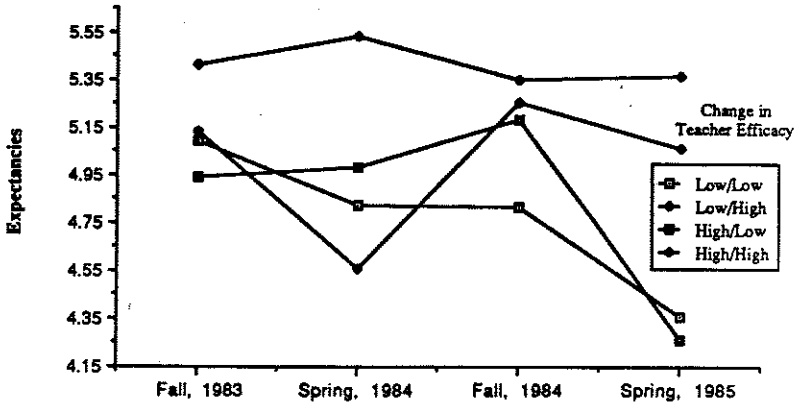

Figure 6.1 Expectancies in Math and Change in Teacher Efficacy for Low-Achieving Students

early adolescent development but rather a consequence of the fact that so many early adolescents experience a debilitating shift in their classroom environments as they make the junior high school transition.

Teacher-Student Relationships

As reported earlier, we found that student-teacher relationships deteriorate after the transition to junior high school. 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; Moos, 1979; Trickett & Moos, 1974). Consequently, there is reason to believe that transition into a less supportive classroom will impact negatively on early adolescents' interest in the subject matter being taught in that classroom.

In a sample of 1,301 students, we looked at the effect of differences in perceived teacher support before and after the transition to junior high school on the value early adolescents attach to mathematics (see Midgley, Feldlaufer, & Eccles, 1988a, for a full description of this study). We found, as predicted, that when our early adolescents moved from elementary teachers they perceived to be low in support to junior high school teachers they perceived to be high in support, the value they attached to math was enhanced; in contrast, early

adolescents who moved from teachers they perceived to be high in support to teachers they perceived to be low in support lowered the value they attached to math. Again we found evidence that low-achieving students are particularly at risk when they move to less facilitative classroom environments after the transition.

Both of these studies show that the declines often reported in studies of early adolescents' motivational orientation to school subjects is not inevitable. Instead, these declines are associated with specific types of changes in the nature of the classroom environment experienced by many early adolescents as they make the junior high school transition. The studies also show that a transition into more facilitative types of classrooms can induce positive changes in early adolescents' motivation and self-perceptions. Unfortunately, for all adolescents, but especially for low-achieving adolescents, our findings also indicate that most adolescents experience a negative change in their classroom experiences as they make the junior high school transition. Neither of these studies, however, directly tests our stage-environment fit hypothesis.

STAGE-ENVIRONMENT FIT

We have just completed several sets of analyses that test our developmental approach to person-environment fit more explicitly (see Midgley & Feldlaufer, 1987, and MacIver & Reuman, 1988, for a full description of these studies). In a sample of 2,210 students and their teachers in 117 pretransition and 137 post-transition classrooms, Midgley and Feldlaufer (1987) assessed student and teacher perceptions of actual and preferred decision-making opportunities in the classroom. Yoked pairs of items (Lee, Statuto, & Kedar-Voivodas, 1983) were used to assess actual and preferred decision-making opportunities in five areas in which students might be allowed to help make classroom policy. For example:

For students: Do you help decide what math you work on during class?

Should you have a say about this?

For teachers: Do your students have a say about what math they work on during class?

Do you think students *should* have a say in this?

As expected, early adolescents expressed a desire for more input into decision making after they moved to the junior high school. Unfortunately, both adolescents and teachers reported that students actually had fewer decision-making opportunities after the transition than before; thus, there was a growing lack of congruence between early adolescents' desires and the opportunities afforded by the environment as they moved into junior high school.

Does this increasing mismatch affect early adolescents' motivation? There are several ways to approach this question. If the stage-environment fit perspective outlined earlier is correct, then the early adolescents experiencing one particular type of increasing incongruence should be most likely to evidence declines in motivational variables. Specifically, given the general developmental progression toward increased desire for independence and autonomy during the early adolescent period, those early adolescents who experience a decrease in their opportunities for participation in classroom decision making, coupled with an increasing desire for such opportunities, should evidence the greatest declines in their motivation. In support of this prediction, those adolescents 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 showed larger and more consistent declines in their interest in math than their peers as they made the junior high school transition (MacIver & Reuman, 1988). That is, it was the adolescents who experienced an increase in their unmet desire for input in classroom decision making as they moved from sixth to seventh grade who showed the largest declines in their interest in math as they made this school transition. These are the students who are experiencing the type of developmental mismatch we outlined in our discussion of stage-environment fit.

SUMMARY AND DISCUSSION

Children's orientation toward school achievement and confidence in their own ability to master schoolwork declines as they move from childhood into adolescence. Furthermore, these declines appear to be especially marked as early adolescents enter and experience the junior high school environment. Some would argue that organismic changes, such as pubertal development and the onset of formal opera-

tional thought, are responsible for these shifts; that early adolescence, because it is a time of such profound biological and psychological change, puts the developing individual at risk for negative outcomes. Although one can not deny that these are important influences and that early adolescence may well be a particularly interesting transitional period, especially in this culture, we have presented a more social contextual view on the nature of this transition. We have proposed that the transitional status of early adolescence is best understood by focusing on the interaction between organismic maturation and systematic changes in the social environment early adolescents are exposed to. We have used this perspective to analyze the declines in academic motivation and self-perceptions generally associated with the junior high school transition. Specifically, we have suggested that there are systematic differences between sixth grade elementary and seventh grade junior high school classrooms and that these differences help explain the developmental declines in academic motivation and self-perception often reported as characteristic of the early adolescent period. The evidence presented suggests that the declines in motivation are less a consequence of the developmental stage than of a mismatch between the early adolescents' needs and the opportunities afforded them in the junior high school environment. Clearly much more work needs to be done to provide solid evidence in support of this hypothesis.

The theory and evidence presented in this chapter raise several interesting issues. First, is early adolescence a transitional period? The answer to this question depends on one's definition of transitional. Higgins and Parsons (1983) argued that the morphological changes associated with puberty and societal beliefs about adolescent development lead adults and peers to structure the social environments of early adolescents differently than the social environments of either older or younger people, making early adolescence a time of transition between different social cultures. Whether it is also transitional in the organismic, structural sense is a difficult question to answer. Given that developing individuals in this culture experience fairly widespread, systematic changes in their social environments as they pass into and through early adolescence, it is difficult to see whether the psychological changes associated with this developmental period are attributable to social environmental shifts, to maturational processes, or to some interaction between these two influences. Studies such as the ones reported here suggest that the direction of change during this developmental period is greatly influenced by the nature

of the shifts in the early adolescents' social environment. Environmental changes that are responsive to the individual's growing desire to be mature should pull the individual toward maturity and positive outcomes. Developmentally regressive environmental changes and environmental changes that decrease the fit between the individual's needs and the opportunities afforded by the environment should lead to negative consequences. It is also possible that early adolescence is a time of increased plasticity and openness (Lerner, 1982: Lipsitz, 1981). If this is true then social environmental influences ought to have an especially marked impact at this developmental period (and early adolescence ought to be a time when children are especially vulnerable to both positive and negative influences). We know of no empirical studies that adequately test this hypothesis.

Second, if developmentally appropriate educational environments have more positive consequences for early adolescents then why are junior high school environments so developmentally inappropriate? Why, for example, do seventh grade teachers have such a negative view of their students and of their own efficacy? Are there other belief systems and social structures that underlie these perceptions and the other nonadaptive characteristics of the junior high school environment? We have become very interested in adults' stereotypes about adolescence. Seventh grade junior high school teachers believe that early adolescence is a difficult time of life for children and their teachers, and those with the most teaching experience endorse this belief most strongly (Miller, Eccles, Flanagan, Midgley, Feldlaufer, & Goldsmith, in press). Are these stereotypes responsible to the other negative attitudes junior high school teachers have? Where do these stereotypes come from? Does the fact that we ghettoize early adolescents into junior high schools and middle schools exacerbate these stereotypes? Is there something about the structure of the junior high school that creates an environment in which early adolescents are more likely to act in accord with the stereotypes than they would if they were in other more facilitative environments (Carnegie Council on Adolescent Development, 1989)? Are there other macrostructural features of our culture that have impact on both the nature of the educational environments provided for early adolescents and the beliefs that adults in this culture have regarding early adolescents in general and specific subgroups of early adolescents in particular? Questions such as these require that we take a broader look at the factors that influence the types of environments we provide for early adolescents as well as at the impact of these environments on early adolescents.

Third, how might the stage-environment fit idea be useful in other areas of early adolescent development? Not surprisingly, we see many possible applications of this perspective. For example, it seems likely that a poor person-environment fit within school might encourage some students to seek a better fit outside of school. Because of their increasing independence and mobility, early adolescents should be more likely to take advantage of this option than children, often at the expense of their school involvement and academic achievement. The evidence of increased rates of truancy during the early adolescent years (Simmons & Blyth, 1987) supports this suggestion.

Similarly, one could look at transitions in family relationships during the early adolescent period in terms of the stage-environment fit perspective. Just as we have suggested for the school environment, optimal development during the early adolescent period ought to be affected by the match between the changing needs of the early adolescent and the opportunities afforded within the family to meet these needs. Montemayor (1986), Steinberg (1989), and others have suggested that early adolescence is characterized by a temporary increase in family frictions. But even this temporary increase is not characteristic of all families. It seems that friction is most likely to result in those families in which the parents are not as responsive to their adolescent's changing needs as they should be, resulting in a temporary mismatch between the needs of the early adolescent and the family environment.

Is early adolescence a distinct developmental, transitional period? We believe it is a period characterized by many transitions—physiological, psychological, and environmental. Only by understanding the complex interactions among these many transitions will we come to understand the special and unique nature of early adolescence.

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