

## Special Article

# Schools, Families, and Early Adolescents: What Are We Doing Wrong and What Can We Do Instead?

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**ABSTRACT.** Although most individuals pass through adolescence without excessively high levels of "storm and stress," many individuals experience difficulty during this period. Why? Is there something unique about this developmental period that puts individuals at greater risk for difficulty? This paper focuses on these questions and advances the hypothesis that some of the "negative" psychological and behavioral changes associated with adolescent development result from a mismatch between the needs of developing adolescents and their experiences at school and at home. It provides theoretical and empirical examples of how this mismatch develops, how it is linked to negative age-related changes in early adolescents' motivation, self-perceptions, self-evaluations, and psychological competence, and how we could provide more developmentally appropriate social environments, particularly at school. *J Dev Behav Pediatr* 17:267-276, 1996. Index terms: adolescents, schools, family, motivation, mental health, self-concept.

Adolescents today face great risks to their current and future well-being, perhaps greater than at any previous point in our history.<sup>1</sup> As a result, a substantial portion of America's adolescents are not doing very well; 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.<sup>2</sup> In addition, academic failure often co-occurs with other problem behaviors, such as disruptive behavior in the classroom, skipping classes, truancy, delinquency, substance abuse, and teenage pregnancy.<sup>3,4</sup> Many of these problems appear to begin during the early adolescent years.<sup>5</sup> Why? Is there something unique about this developmental period that puts individuals at greater risk for difficulty? This paper focuses on this question: Consistent with the view elaborated in the Carnegie Council on Adolescent Development report *Turning Points*,<sup>5</sup> we suggest that the problems of many early adolescents are exacerbated by the kinds of experiences they often have in middle and junior high schools. There is considerable evidence (which we review in some detail) that junior high schools are often too large and impersonal to meet the needs of young adolescents, particularly young

adolescents who may already be experiencing problems at school. As a result, these young people can slip through the cracks of adult supervision and monitoring, and their needs can go unnoticed until it is too late. As is argued in *Turning Points*, the junior high school years may be the last best chance to "save" these young people. But for this to occur, junior high schools and middle schools need to provide a different type of social environment for both the teachers and the students. In this paper, we outline some of the characteristics of typical junior high school environments that need to be changed to provide a better social environment for both the young people themselves and the adults who have the responsibility for educating and parenting them through this vulnerable developmental period.

### "PROBLEMATIC" CHANGES ASSOCIATED WITH EARLY ADOLESCENT DEVELOPMENT

Evidence from several sources suggests that the early adolescent years mark the beginning of a downward spiral for some individuals, a downward spiral that leads these adolescents to academic failure and school drop out.<sup>3,6-8</sup> For example, Simmons and Blyth<sup>8</sup> found a marked decline in some early adolescents' school grades as they moved into junior high school, with the magnitude of this decline being predictive of subsequent school failure and drop-out. Similar declines have been documented for such motivational con-

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structs as: interest and feelings of belonging in school,<sup>9,10</sup> intrinsic motivation,<sup>11</sup> and self-concepts/self-perceptions and confidence in one's intellectual abilities, especially after failure.<sup>12-15</sup> There are also age-related increases during early adolescence in such negative motivational and behavioral characteristics as test anxiety,<sup>16</sup> learned helpless responses to failure,<sup>17</sup> and a focus on self-evaluation rather than task mastery.<sup>18</sup>

Similar types of negative changes have also been noted in family interactions. Although the findings are neither universal nor indicative of major disruptions for most adolescents and their families, there does appear to be a temporary increase in family conflict, particularly over issues related to autonomy and control, during the early adolescent years.<sup>19-26</sup> For example, Hill and Steinberg, in both their observational and self-report studies, found increased conflict between mothers and their sons and daughters during the early and middle adolescent years, particularly for early maturing adolescents.<sup>27-29</sup>

Thus, although these types of negative changes are not extreme for most adolescents, there is sufficient evidence of a gradual decline in various indicators of self-perceptions, academic motivation, performance, positive school behaviors, and family functioning as well as a gradual increase in school problems and anti-social behaviors over the early adolescent years to make one wonder what is happening.<sup>6</sup>

A variety of explanations have been offered to explain these "negative" changes. Some have suggested that such declines result from the intrapsychic upheaval assumed to be associated with early adolescent development.<sup>30</sup> Others have concluded that it is the coincidence of the timing of multiple life changes. For example, Simmons and her colleagues have suggested that the concurrent timing of the junior high school transition and pubertal development accounts for the declines in the school-related measures and self-esteem.<sup>8,31</sup> Drawing on cumulative stress theory, they suggest that declines in motivation occur because so many young adolescents must cope with two major transitions: pubertal change and the move to middle or junior high school. To test this hypothesis, Simmons and her colleagues compared the pattern of change on early school-related outcomes for adolescents who moved from sixth to seventh grade in a K-8, 9-12 system with the pattern of change for adolescents who made the same grade transition in a K-6, 7-9, 10-12 school system. This work separated out the effects of age and school transition operating in most developmental studies of this age period. These researchers found clear evidence, especially among girls, of greater negative change among adolescents making the junior high school transition than among adolescents remaining in the same school setting as part of a K-8 school program. But are these differences due to the cumulative impact of school transition and pubertal change for girls who moved to a junior high school at grade 7 or are they due to differences in the nature of the school environments in these two educational structures? Or are the differences due to both of these sets of experiences? Simmons and her colleagues<sup>8</sup> argue for the latter.

Similarly, Eccles and her colleagues have suggested that the *change* in the nature of the learning environment associ-

ated with the junior high school transition is a plausible explanation for some of the declines in the school-related measures associated with the junior high school transition.<sup>6,12</sup> Drawing on person-environment fit theory,<sup>32</sup> Eccles and Midgley<sup>6</sup> proposed that these motivational and behavioral declines could result from the fact that many junior high schools do not provide appropriate educational and social environments for early adolescents. According to person-environment fit theory, motivation is influenced by the fit between the characteristics individuals bring to their social environments and the characteristics of these social environments. Individuals are not likely to do very well, or be very motivated, if they are in social environments that do not meet their psychological needs. If the social environments in the typical junior high school do not fit very well with the psychological needs of adolescents, then person-environment fit theory predicts a decline in motivation, interest, performance, and behavior as they move into this environment. This is the perspective elaborated in this current paper. This perspective is also extended to the family context, focusing on the possible mismatch between adolescents' need for greater autonomy from parental control and the opportunities for such autonomy provided by many adolescents' parents.

## STAGE/ENVIRONMENT FIT AND SCHOOL-RELATED CHANGES

Various explanations have been offered for the declines in early adolescents' school-related motivational orientations associated with the junior high school transition. In this section, the possible role that the school may play in exacerbating these declines is discussed. To understand this role, two types of evidence regarding school effects are presented: evidence drawn from studies that follow the standard environmental influences approach and evidence from studies that adopt a developmental variant on the person-environment fit paradigm, or as Eccles and Midgley have termed it, the "stage/environment fit" approach.<sup>6</sup>

### General Environmental Influences

Work in a variety of areas has documented the impact of several 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.<sup>33</sup> Similarly, many studies have documented the importance of teacher confidence and positive teacher-student relations for both teachers' and students' motivation.<sup>34-36</sup> Finally, motivational psychologists have demonstrated the importance of participation and self-control on motivation.<sup>37-39</sup> Although this list is by no means exhaustive, there are many characteristics of classrooms and schools that influence students' motivation and attachment to their school. If students experience a change in these characteristics as they move from elementary school into junior high school, then their motivation and interest in school should also change. In fact, evidence (reviewed later) is growing to suggest that there are fairly systematic differences between typical elementary classrooms and schools and typical junior high classrooms and

schools. Furthermore, the evidence indicates that many junior high schools exhibit those characteristics usually linked with lowered motivation and interest. For example, they are usually bigger than elementary schools and have less personal and friendly student-teacher relationships. If this is the case, then these types of differences could help explain some of the motivational changes seen among early adolescents as they make the transition into middle or junior high school. If so, then some of the motivational problems seen at early adolescence may be as much a consequence of negative changes in their school environment as a consequence of the pubertal changes that accompany this developmental period (see Higgins and Parsons<sup>40</sup> for a full elaboration of this argument).

### Stage-Environment Fit

A slightly different 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. This perspective leads one to expect negative motivational consequences for individuals when they are in environments that do not fit well with their needs.<sup>32,41</sup> At the most basic level, this perspective suggests the importance of looking 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<sup>32</sup> argued for the importance of adopting a developmental perspective on person-environment fit in the classroom and suggested that teachers should provide the optimal level of structure for children's current levels of maturity while providing a sufficiently challenging environment to pull the children along a developmental path toward higher levels of cognitive and social maturity. What is intriguing about this suggestion is its applicability to understanding the motivational declines associated with the junior high school transition. If it is true that different types of educational environments may be needed for different age groups 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. In fact, some types of changes in the educational environment may be "developmentally regressive." Exposure to such changes at the junior high school or middle school transition could lead to a particularly poor person-environment fit and thus help explain some of the declines in motivation seen at this developmental period.

### Systematic Changes in School Environments with The Transition into Middle or Junior High School

In essence, we are suggesting that it is the fit between the developmental needs of the adolescent and the educational environment that is important. This hypothesis was discussed at length in *Turning Points*.<sup>5</sup> In this report, the Council argued that educational environments for early

adolescents need to be especially designed for the needs of this age period. Furthermore, the Council argued that many of the features of typical junior high schools, such as the impersonal relationships between teachers and students, are not appropriate for early adolescents. We also believe that: (1) there are several classroom organizational, instructional, and climate characteristics such as ability grouping (or tracking) practices, evaluation techniques, motivational strategies, locus of responsibility for learning, and quality of teacher-student and student-student relationships that are likely to undermine early adolescents' academic motivation and confidence and (2) these characteristics are much more common in junior high schools than in elementary schools. If this is true, then these types of changes in school characteristics could help explain the types of negative motivational changes we see in early adolescents as they make the junior high school transition. Although relatively little research has been done comparing elementary school and junior high school classrooms, that which exists provides support for these suggestions.

First, junior high school classrooms, compared with elementary school classrooms, are characterized by a greater emphasis on teacher control and discipline and fewer opportunities for student decision-making, choice, and self-management.<sup>42-45</sup> For example, in our own work, 6th grade elementary school math teachers reported less concern with controlling and disciplining their students than these same students' 7th grade junior high school math teachers reported 1 year later.<sup>43</sup> Similar differences emerged on indicators of student opportunity to participate in decision making regarding their own learning. For example, again in our work, both 7th graders and their teachers in the first year of junior high school reported less opportunity for students to participate in classroom decision-making than did these same students and their 6th grade elementary school teachers 1 year earlier. In addition, using a measure developed by Lee, Statuto, and Kedar-Voivodes<sup>44</sup> to assess the congruence between the adolescents' desire for participation in decision-making and their perception of the opportunities for such participation, Midgley and Feldlaufer<sup>45</sup> found a greater discrepancy between the adolescents' desire for autonomy and their perception of the extent to which their classroom afforded them opportunities to engage in autonomous behavior when the adolescents were in their first year in junior high school than when these same adolescents were in their last year in elementary school.

Second, junior high school classrooms, compared with elementary school classrooms, are characterized by less personal and positive teacher/student relationships.<sup>6</sup> For example, in our work, both students and observers rated junior high school math teachers as less friendly, less supportive, and less caring than the teachers these students had 1 year earlier in the last year of elementary school.<sup>46</sup> In addition, the 7th grade teachers in this study also reported that they trusted the students less than did these students' 6th grade teachers.<sup>43</sup>

Third, the shift to junior high school is associated with an increase in practices such as whole class task organization,

between classroom ability grouping (i.e., tracking), and public evaluation of the correctness of work.<sup>6</sup> For example, Rounds and Osaki<sup>47</sup> found that, in comparison to 6th grade classrooms in an elementary school, whole-group instruction was more common, and small-group instruction and individualized instruction were much less common, in 7th grade junior high school classrooms. Similar shifts toward increased use of whole-class instruction with most students working on the same assignments at the same time, using the same textbooks, and completing the same homework assignments were evident in our study of the junior high school transition. In addition, several reports have documented an increased use of between class ability grouping beginning at junior high school.<sup>48</sup>

Changes such as these are likely to increase social comparison, concerns about evaluation, and competitiveness.<sup>12,49</sup> They may also increase the likelihood that teachers will use normative grading criteria and more public forms of evaluation, both of which may have a negative impact on many early adolescents' self-perceptions and motivation. These changes may also make aptitude differences more salient to both teachers and students, leading to increased teacher expectancy effects and decreased feelings of efficacy among teachers.

Fourth, junior high school teachers feel less effective as teachers, especially for low ability students. This was one of the largest differences we found between 6th and 7th grade math teachers despite the fact that the 7th grade math teachers were more likely to be math specialists than the 6th grade math teachers.<sup>43</sup>

Finally, junior high school teachers appear to use a higher standard in judging students' competence and in grading their performance than elementary school teachers.<sup>6</sup> There is no stronger predictor of students' self-confidence and sense of efficacy than the grades they receive. If grades change, then we would expect to see a concomitant shift in adolescents' self-perceptions and academic motivation. There is evidence that junior high school teachers use stricter and more social comparison-based standards than elementary school teachers to assess student competency and to evaluate student performance, leading to a drop in grades for many early adolescents as they make the junior high school transition. For example, Finger and Silverman<sup>50</sup> found that 54% of the students in New York State schools experienced a decline in their grades when they moved into junior high school. Similarly, Simmons and Blyth<sup>8</sup> found a greater drop in grades between 6th and 7th grade for adolescents making the junior high school transition than for adolescents who remained in K-8 schools. Of interest, the decline in grades was not accompanied by a similar decline in the adolescents' scores on standardized achievement tests, which suggests that the decline reflects a change in grading practices rather than a change in the rate of the students' learning.<sup>51</sup>

### **Developmental Needs of the Adolescent**

Changes such as those noted above are likely to have a negative effect on children's motivational orientation toward school at any grade level. But we believe these types of

school environment changes are particularly harmful at early adolescence given what is known about psychological development during this stage of life. Early adolescent development is characterized by increases in desire for autonomy and self-determination, peer orientation, self-focus and self-consciousness, salience of identity issues, concern over possible sexual relationships, and capacity for abstract cognitive activity.<sup>8</sup> Simmons and Blyth<sup>8</sup> argued that adolescents need reasonably safe and also intellectually challenging educational environments to adapt to these shifts, environments that provide 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 to self-assess at a time of heightened self-focus; they decrease decision-making and choice at a time when the desire for control is growing; and they disrupt both peer and adult social networks at a time when adolescents are especially concerned with peer relationships and may be in special need of close adult relationships outside of the home. We believe that 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. In the next section we review research findings relevant to these predictions.

But first it is important to step back and consider briefly why junior high school classrooms might have these characteristics. Several sources have suggested that these characteristics result, in part, from the size and bureaucratic nature of the junior high school as an institution.<sup>5,8,38</sup> For example, these sources argue that such school characteristics as size, connection to the community, and system of governance, as well as such instructional organization characteristics as departmentalized teaching, ability grouping, normative grading, and large student load, undermine the motivation of both teachers and students. It is difficult for teachers to maintain warm, positive relationships with students if they have to teach 25 to 30 different students each hour of the day. Similarly, it is hard for teachers to feel efficacious about (i.e., have confidence in) their ability to monitor and teach all of these students. Finally, it seems likely that teachers will resort to more controlling strategies when they have to supervise such a large number of students.

Each of these consequences of the size and organization of traditional junior high schools on teachers' motivation are likely to be exacerbated by the negative stereotypes about adolescents propagated in this culture by presumed experts and by the mass media.<sup>52</sup> We live in a culture that has a very negative view of early adolescents, and we tend to attribute their behavior to the biological upheaval associated with puberty. Teachers often do not want to teach in junior high schools precisely because of these beliefs. As a result, the best and most motivated teachers often leave junior high schools as soon as openings become available in either elementary or high school, making it even more difficult to maintain high teacher and student morale.

### IMPACT OF CLASSROOM ENVIRONMENTAL CHANGES ON EARLY ADOLESCENTS' MOTIVATION: THE MICHIGAN STUDY OF ADOLESCENT LIFE TRANSITIONS

To test some of these predictions, we conducted a large-scale, 2-year longitudinal study of the impact of changes in the school and classroom environments on early adolescents' achievement-related beliefs, motives, values, and behaviors using The Michigan Study of Adolescent Life Transitions (MSALT). The sample of 1500 adolescents was drawn from 12 school districts located in middle-income communities in southeastern Michigan in which the students moved from the 6th grade in an elementary school into the 7th grade in a junior high school during the course of the study. Because we wanted to test whether it was the transition per se or the specific type of change in classroom characteristics that the students experienced as they made this transition, we selected districts that varied in the nature of the junior high school environment. We were able to find some junior high schools that did not evidence the negative characteristics outlined above. We then compared the changes in the students' attitudes, motivation, and self-confidence depending on the nature of the classroom changes they experienced as they made the junior high school transition. We predicted that we would see the typical negative changes only among the early adolescents who experienced a negative change in the characteristics of their classrooms as they made the junior high school transition. Questionnaires were administered at school during the fall and spring terms of these 2 consecutive school years.

#### Teacher Efficacy (Confidence in One's Ability to Teach All of One's Students)

One of the largest differences we found between the 6th and 7th grade teachers of our students was in their confidence in their teaching efficacy: the 7th grade teachers reported less confidence than the 6th grade teachers. Given the negative correlations between teachers' sense of efficacy and students' self-concept of ability and self-reliance found in several studies,<sup>34</sup> 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 test this hypothesis, we divided our adolescent sample into four groups based on median splits of their math teachers' ratings of their personal teaching efficacy.<sup>53</sup> The largest group (559 of the 1329 included in these analyses) moved from a high efficacy 6th grade math teacher to a low efficacy 7th 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 the adolescents in our sample moved to a low teacher efficacy math classroom in the 7th 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 sobering.

As predicted, the adolescents who moved from high efficacy to low efficacy math teachers during the transition (the most common pattern) ended their first year in junior high

school with lower expectations for themselves in math, lower perceptions of their performance in math, and higher perceptions of the difficulty of math than the adolescents who experienced no change in teacher efficacy or who 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; by the end of the junior high school year, low achieving adolescents who had moved from high to low efficacy math teachers suffered a dramatic decline in their confidence in their ability to master mathematics. This drop is likely to signal the beginning of the downward spiral in school motivation that eventually leads to school drop out among many low achieving adolescents. It is important to note, however, that this same decline was not characteristic of the low achieving adolescents who moved to high efficacy 7th grade math teachers, suggesting that the decline is neither the result of general early adolescent development or of the junior high school transition per se but rather is a consequence of the change in learning environment experienced by so many early adolescents as they make the junior high school transition.

#### Teacher/Student Relationships

As reported earlier, we also found that student/teacher relationships deteriorated 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.<sup>35,36</sup> Consequently, there is reason to believe that transition into a less supportive classroom will have a negative impact on early adolescents' interest in the subject matter being taught in that classroom. To test this prediction, 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.<sup>46</sup> As predicted, those early adolescents who moved from elementary teachers they perceived to be low in support to junior high school math teachers they perceived to be high in support showed an increase in the value they attached to math; in contrast, those early adolescents, particularly the lower achieving students, who moved from teachers they perceived to be high in support to teachers they perceived to be low in support showed a decline in the value they attached to mathematics.

#### Summary

Each of these two studies demonstrated that the declines often reported in studies of early adolescents' motivational orientation are not inevitably the result of either general developmental changes associated with pubertal development or the junior high school transition per se. 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 showed that a transition into more positive classrooms can induce positive changes in early adolescents' motivation and self-perceptions. Unfortunately, our findings also indicate that most adolescents expe-

rience a negative change in their classroom experiences as they make the junior high school transition.

### Person-Environment Fit in Classroom Decision-making

Both the adolescents and the teachers in MSALT were also asked to rate whether students were allowed to have input into classroom decisions regarding seating arrangements, classwork, homework, class rules, and what to do next and whether students *ought* to have input into each of these decisions. These questions can be used to determine the extent of match or mismatch between the students' preferences and the opportunities actually afforded them in the school environment and to assess the extent to which grade-related changes in this match are related to developmental changes in the adolescents' self-perceptions and school-related motivation.

As noted earlier, both the early adolescents and their teachers reported less opportunity for participation in classroom decision-making in the 7th grade than in the 6th grade. In contrast, the adolescents reported a greater desire for participation in classroom decision-making in the 7th than in the 6th grade. As a consequence of these two divergent patterns, the congruence between early adolescents' desires for participation in classroom decision-making and their perceptions of the opportunities available to them was lower in the 7th grade than in the 6th grade.<sup>45</sup> Person-environment fit theory suggests that the mismatch between young adolescents' desires for autonomy and control and their perceptions of the opportunities in their environments should result in a decline in the adolescents' intrinsic motivation and interest in school. But more critical to note, from a developmental perspective, the exact nature of the mismatch should also be important. As noted earlier, given the normative developmental progression toward increased desire for independence and autonomy during the early adolescent period, adolescents who experience decreased opportunities for participation in classroom decision-making along with an increased desire for greater participation in such decisions (i.e., a "can't but should be able to" mismatch) should be more at risk for negative motivational outcomes than adolescents experiencing other forms of mismatch (such as the "can but shouldn't be able to" mismatch).

In a longitudinal analysis of these items, MacIver and Reuman<sup>54</sup> provided some support for this prediction. They compared the changes in intrinsic interest in mathematics for adolescents reporting different longitudinal patterns in their responses to the actual and preferred decision-making items across the four waves of data. Consistent with the prediction, it was the adolescents who perceived their 7th grade math classrooms as putting greater constraints on their preferred level of participation in classroom decision-making than their 6th grade math classrooms who evidenced the largest and most consistent declines in their intrinsic interest in math as they moved from the 6th grade into the 7th grade. These are the students who experienced a developmentally regressive mismatch as they moved into junior high school. The other students who did not experience a developmentally regressive mismatch as they moved into junior high school did not show the decline in their interest in math.

Instead, some of them showed an increase in their interest. Unfortunately, these luckier students were in the minority. The majority of students experienced the developmentally regressive pattern of change.

### Broader Consequences of Lack of Fit in School

The research discussed thus far highlights the importance of understanding early adolescents' adjustment in light of both the psychological characteristics salient to adolescents and the school context in which adolescents spend a good portion of their waking hours. A key challenge for adolescents is to develop a coherent personal identity that integrates personal competencies with the expanding social roles and experiences that accompany this developmental period. The contexts in which adolescents develop can either facilitate or undermine their pursuit of this unique and coherent personal identity. We have presented evidence that school environments that do not fit well with the developmental needs of the adolescent have implications for adolescents' motivation for school achievement, academic motivation, and attachment to school. Indeed, our results suggest that many early adolescents experience a junior high school environment that is developmentally regressive and likely to undermine both academic achievement and healthy psychological maturation. Academic achievement is related to personal adjustment during this time and may serve as a protective factor against many of the negative outcomes that are manifest later in adolescence, including problem behaviors and mental health problems.<sup>55-57</sup> Conversely, academic underachievement and alienation in early adolescence may be risk factors for later adjustment. For instance, several authors have discussed the relationships between negative self-perceptions of academic and social competence and internalized and externalized distress.<sup>56</sup> The result of such a poor fit of the school environment to the adolescents' psychological needs can be alienation from the very context that the adolescent needs to promote the growth of competencies critical for success in this society.<sup>57</sup>

### STAGE-ENVIRONMENT FIT IN PERCEIVED CONTROL IN THE FAMILY

As noted earlier, adolescents' relationships with their parents also undergo a stressful period during early and middle adolescence. Furthermore, this stress is often focused on issues of control and autonomy within the family. Adolescence is a time for renegotiating the power and authority relationships within the family. When they are young, by necessity, children's relationship with their parents is asymmetrical in terms of power and authority. But as children mature, they need to take more and more responsibility for themselves until, ultimately, they leave their natal home and take full responsibility for their own lives. In the optimal situation, parents will reinforce and stimulate this process of growing autonomy, self-determination, and independence. But it is very likely that the renegotiation processes associated with these developmental trajectories will not be smooth. It is not easy for parents to determine the optimal level of autonomy versus control for their children at all ages. And, according to a stage-environment fit perspective,

one would predict strained relationships whenever there is a poor fit between the child's desire for increasing autonomy and the opportunities for independence and autonomy provided by the child's parents.

Early adolescence seems a likely developmental period for asynchrony in this dimension to emerge within the family context. Social changes in the world of adolescents substantially increase the opportunity for them to experience independence outside the home. The transition to junior high school, and cultural beliefs regarding "appropriate" amounts of adult supervision for children of different ages, lead to a dramatic increase in the amount of unsupervised age-mate contact during this developmental period.<sup>40</sup> This increase creates the opportunity for adolescents to spend a lot of time in relationships that are likely to be more balanced in terms of interpersonal power and authority. These experiences may lead early adolescents to expect greater equality in their relationships at home as well. The opportunity to be exposed to a broader range of families is also likely to increase with the junior high school transition because these schools typically are larger and draw their attendance from a more diverse range of neighborhoods and communities. This broadened exposure, in turn, may lead early adolescents to question the legitimacy of their parents' rules.<sup>24,25,40</sup> Exposure to a broader range of belief systems, along with increasing cognitive maturity, may also lead adolescents to try to integrate and coordinate diverse social perspectives and to evaluate interpersonal relationships. These changes, in turn, may lead early adolescents to question their parents' authority and to push for a more symmetrical relationship with their parents. Finally, parents, in response to their children's emerging sexuality, may become more concerned about their children's safety and may actually become more restrictive than they were during the period of middle childhood, further exacerbating the perceived asynchrony in the child's mind. However, as the family adjusts to these changes, one would expect new authority relationships to emerge and the strain to decrease over the adolescent years.<sup>22</sup>

We are in the process of examining these issues in our study of adolescent development (The Michigan Study of Adolescent Life Transitions study described earlier). We assessed family decision-making in two ways; both the adolescents and their parents responded to two items derived from the Epstein and McPartland<sup>58</sup> scale of family decision-making (e.g., "In general, how do you and your child arrive at decisions?" [1 = I tell my child just what to do; 3 = We discuss it and then we decide; 5 = I usually let my child decide] and "How often does your child take part in family decisions that concern her/himself?" [1 = never; 4 = always]). The adolescents were also asked to rate how they thought decisions ought to be made in their family and the extent to which they think "their parents treated them more like a kid than like an adult."

Consistent with the analyses reported earlier for schools, we found both an increase over time in adolescents' desire for greater participation in family decision-making and positive associations between the extent of the adolescents' participation in family decision-making and indicators of both intrinsic school motivation and positive self-esteem.<sup>59-64</sup> Even more interesting from the stage-environment fit per-

spective, the parents reported that they included their children more in family decision-making than the children perceived to be true.<sup>59,62</sup> Furthermore, the discrepancy between the adolescents' and the parents' perception of the opportunities for the adolescents to participate in family decision-making increased over the four data collection points in our study.<sup>62</sup>

Finally, and most importantly, the pattern of changes in early adolescents' self-esteem and intrinsic versus extrinsic motivation for school work were systematically, and predictably, related to changes in their perceptions of the opportunity to participate in family decision-making at home. As our developmental stage-environment fit perspective on adult control implies, the adolescents who reported decreasing opportunities to participate in family decision-making showed a decrease in their self-esteem and intrinsic motivation over the period of this study; the opposite pattern of change occurred for the adolescents who reported increasing opportunities to participate.<sup>60,63</sup> In addition, the opportunity to participate in family decision-making also predicted better adjustment to the junior high school transition.<sup>61</sup> Thus, not only may a mismatch between authority relationships in the home precipitate increased conflict, it may also be detrimental to the adolescents' self-esteem and school-related motivation.

In another study of 1500 families and their 7th grade adolescent, we have demonstrated similar patterns of associations of the negative consequences of "can't but should" mismatch in family decision-making for a broad range of indicators of psychological well-being.<sup>57</sup> Relative to those 7th graders who were satisfied with their involvement in family decision-making, the adolescents who reported that they were not involved in family decision-making as often as they thought they should be and that their parents were too intrusive and overprotective also reported lower self-esteem, more depressive symptomatology (particularly girls), more anger, and less personal resourcefulness. These results are consistent with our hypothesis that a misfit between parents and their adolescents can undermine adolescents' psychological well-being. What these correlational data cannot yet tell us, however, is the direction of effect of the relation of stage-environment mismatch to adolescent mental health. Although we found evidence in other studies that a stage-environment mismatch can lead to negative changes in self-esteem over time, it is possible that characteristics of the child contribute to the perceived mismatch in the family. For example, parents may need to be more protective and intrusive and to provide less opportunity for autonomous decision-making if their child is involved in risk taking or problem behavior or is depressed or immature. Further analyses using longitudinal data will hopefully provide valuable insight into the direction of processes.

## CONCLUSION/IMPLICATIONS

We have argued that optimal development takes place when there is a good fit between the needs of developing individuals and the opportunities afforded them in their social environments. We have provided evidence of the negative effects of the decrease in personal and positive

interactions with teachers after the transition to junior high school and have argued that this decline is especially problematic during early adolescence when children are in special need of close relationships with adults outside of their homes. We have also noted the increase in ability grouping (tracking), comparative and public evaluation, and whole class task organization at a time when young adolescents have a heightened concern about their status in relation to their peers. Finally, we discussed, and provided evidence of, the negative consequences of these kinds of developmentally inappropriate environmental changes on early adolescents' school motivation and academic self-concepts.

We also discussed the role of opportunity for self-determination and participation in rule-making, pointing out the particularly important need for a match between the individual's increasing desires for autonomy and self-determination and the opportunities for such autonomy provided in the home and at school. Although adolescents desire more freedom from adult control than children, they do not want total freedom, and they do not want to be emotionally detached from their parents. Instead, they desire a gradual increase in the opportunity for self-determination and participation in decision- and rule-making. Furthermore, evidence suggests that they develop best when these increasing opportunities occur in environments that are emotionally supportive.<sup>57,64,65</sup>

Unfortunately, our research suggests that many early adolescents do not have these experiences in either the school or family setting. After the transition to junior high school, in particular, early adolescents are often confronted with a regressive environmental change. Not surprisingly, there is also a decrease in intrinsic motivation and an increase in school misbehavior associated with this transition, and these changes are most apparent among the adolescents who report experiencing the greatest mismatch between their needs and their opportunities to participate in classroom decision-making. Such motivational changes are not apparent in adolescents who report the more developmentally appropriate increase in opportunity for participation in classroom decision-making.

Although our analysis of the family data is not as complete as our analysis of the classroom data, we have found evidence suggesting that a similar process is occurring in the family. Excessive parental control is linked to lower intrinsic school motivation, to more negative changes in self-esteem after the junior high school transition, to more school misbehavior, and to relatively greater investment in peer social attachments.

Clearly, these results point out the importance of designing educational and family environments for early adolescents that provide a better match to their developing needs and desires. The current situation in traditional junior high schools seems especially problematic. The existing structure of many junior high schools appears to create a climate that undermines both teacher and student motivation. The large size, coupled with departmentalized teaching and large student loads, makes it difficult for teachers and students to form close relationships. In turn, this lack of close relationships, coupled with the generally negative stereotypes about adolescents, could be responsible for the prevalence of low

teacher efficacy and high use of controlling motivational strategies in junior high school classrooms. *Turning Points* outlines a variety of changes in the structure of middle grade educational institutions (e.g., junior highs, middle schools, and intermediate schools) that would make it easier for teachers to maintain a high sense of self-efficacy and for both students and teachers alike to have a strong sense of shared community with each other. In turn, these changes could make it easier for teachers to provide a more positive learning environment for early adolescents. Field studies of the more successful middle and junior high schools provide numerous examples of classrooms and schools that have more positive and developmentally appropriate learning environments, for example, higher teacher efficacy, greater opportunity for meaningful student participation in both school and classroom decision-making, and more positive student-teacher relationships.<sup>3,5,6</sup> Young adolescents in these schools do not evidence the same declines in intrinsic motivation and school attachment stereotypically associated with students in junior high schools; they also do not engage in the same amount of school misbehavior as students in more traditional junior high schools. Unfortunately, many junior high schools do not provide such a developmentally appropriate environment.<sup>6</sup> When they do, the early adolescents adjust much better and do not evidence serious declines in their school motivation and interest.

One potential strategy for remediating the impersonal quality of traditional junior high schools involves within-school re-organization based on the middle school teaching philosophy. Some characteristics of the middle school philosophy that have been identified as potentially helpful are small house programs (programs in which groups of students are kept together for most of their courses over the junior high school years), team teaching, and advisory sessions. Future research is needed to determine the beneficial impact of these re-structuralization strategies on students' adjustment.

There is a similar need for developmentally responsive environments in the family. Existing evidence suggests that there is variability in how families adapt to their children's movement into adolescence and that adolescents fare best in family environments that provide a good fit to their increasing need for autonomy. Adolescents fare more poorly in families that respond to their development either by throwing up their hands and relinquishing control or by cracking down too much. Families, like schools, are confronted with a difficult problem, providing an environment that changes in the right way, and at the right pace, to maintain a good fit with their children's developmentally appropriate needs. Unfortunately, we know less about how to help families achieve this balance than we know about how to design schools that help teachers achieve the right balance. There is a great need for programs that will help parents with this difficult task.

The contexts in which adolescents develop can either facilitate or undermine an adolescent's pursuit of a unique and coherent personal identity and sense of competence. Adolescents' perceptions of their school and family environments as satisfying, or thwarting, their developmentally appropriate autonomy needs contribute to their development



of competent adjustment. The findings reviewed here also suggest that teachers and parents of early adolescents might not be attuned to the experiences and needs of children making the transition to early adolescence. Although for teachers this diminished sensitivity is probably, in part, due to the ecological set-up of school environments at this time, the low fit may also reflect teachers' and parents' lack of understanding about what early adolescents are up against at this period and about what they need from the adults in their lives.

Health care workers can help ameliorate these negative changes. In many school districts, adolescents are required to get a physical before entering junior high school. This provides the opportunity for the health care provider to do some anticipatory guidance with both the family and the adolescents. Both parents and youth can be alerted to the kinds of changes they may experience as they move into

junior high school. Information can be provided about resources the family and youth might turn to if they find the transition to be especially difficult. Parents can be provided with information about danger signs they should pay attention to and about alternative supportive environments they might try to provide for their adolescent after school and on the weekends.

*Acknowledgments.* This research was made possible by grants from the National Institute of Child Health and Human Development (HD31724) and the Spencer Foundation to J.S.E. and the National Science Foundation (BSN-8510504) to J.S.E. and Allan Wingfield. We thank all of our colleagues for assistance in designing, running, and analyzing the data from the studies reported herein. Special thanks go to Allan Wingfield, Christy Miller Buchanan, David Reuman, Douglas MacIver, Harriet Feldlaufer, Dave Klingel, and Jan Jacobs as well as to all of the teachers, school personnel, and students who agreed to participate in these studies.

## REFERENCES

1. Takanishi R: The opportunities of adolescence: Research, intervention, and policy. *Am Psychol* 48:85-88, 1993
2. Office of Educational Research: Youth indicators. Washington, D.C., U.S. Government Printing Office, 1988
3. Dryfoos JG: Adolescents at Risk: Prevalence and Prevention. Oxford, England, Oxford University Press, 1990
4. Rosenbaum JE: Making Inequality: The Hidden Curriculum of High School Tracking. New York, NY, John Wiley and Sons, 1976
5. Carnegie Council on Adolescent Development: Turning Points: Preparing American Youth for the 21st Century. New York, NY, Carnegie Corporation, 1989
6. Eccles JS, Midgley C: Stage/environment fit: Developmentally appropriate classrooms for early adolescents, in Ames RE, Ames C (eds): Research on Motivation in Education, vol 3. New York, NY, Academic Press, 1989
7. Kazdin AE: Adolescent mental health: Prevention and treatment programs. *Am Psychol* 48:127-141, 1993
8. Simmons RG, Blyth DA: Moving into Adolescence: The Impact of Pubertal Change and School Context. Hawthorn, NY, Aldine de Gruyler, 1987
9. Epstein JL, McPartland JM: The concept and measurement of the quality of school life. *Am Educ Res J* 13:15-30, 1976
10. Roeser RW, Midgley CM, Maehr ML: Unfolding and enfolding youth: A development study of school culture and student well-being. Presented at the Society for Research on Adolescence, San Diego, CA, February, 1994
11. Harter S: A new self-report scale of intrinsic versus extrinsic orientation in the classroom: Motivational and informational components. *Dev Psychol* 17:300-312, 1981
12. Eccles JS, Midgley C, Adler T: Grade-related changes in the school environment: Effects on achievement motivation, in Nicholls JG (ed): The Development of Achievement Motivation. Greenwich, CT, JAI Press, 1984, pp 283-331
13. Harter S: The perceived competence scale for children. *Child Dev* 53:87-97, 1982
14. Parsons JE, Ruble DN: The development of achievement-related expectancies. *Child Dev* 48:1975-1979, 1977
15. Simmons RG, Blyth DA, Van Cleave EF, Bush D: Entry into early adolescence: The impact of school structure, puberty, and early dating on self-esteem. *Am Soc Rev* 44:948-967, 1979
16. Hill KT: Motivation, evaluation, and educational test policy, in Fyans LJ (ed): Achievement Motivation: Recent Trends in Theory and Research. New York, NY, Plenum Press, 1980
17. Rholes WS, Blackwell J, Jordan C, Walters C: A developmental study of learned helplessness. *Dev Psychol* 16:616-624, 1980
18. Nicholls JG: String to develop and demonstrate ability: An intentional theory of achievement motivation. Presented at the Conference on Attributional Approaches to Human Motivation, Center for Interdisciplinary Studies, University of Bielefeld, West Germany, June, 1980
19. Buchanan CM, Eccles JS, Becker J: Are adolescents the victims of raging hormones? Evidence for the activational effects of hormones on moods behavior at adolescence. *Psychol Bull* 111:62-107, 1992
20. Collins WA: Parent-child relationships in the transition to adolescence: Continuity and change in interaction, affect, and cognition, in Montemayor R, Adams G, Gullota T: Advances in Adolescent Development, vol 2: From Childhood to Adolescence: A Transitional Period? Newbury Park, CA, Sage, 1990, pp 85-106
21. Hauser S, Powers SI, Noam GG: Adolescents and their families. New York, NY, The Free Press, 1991
22. Montemayor R: Family variation in parent-adolescent storm and stress. *J Early Adolesc* 3:83-103, 1983
23. Paikoff RL, Brooks-Gunn J: Do parent-child relationships change during puberty? *Psychol Bull* 110:47-66, 1991
24. Smetana JG: Adolescents' and parents' conceptions of parental authority. *Child Dev* 59:321-335, 1988
25. Smetana JG: Concepts of self and social convention: Adolescents' and parents' reasoning about hypothetical and actual family conflicts, in Gunnar M, Collins WA (eds): Development During the Transition to Adolescence: Minnesota Symposia on Child Development, vol 21. Hillsdale, NJ, Erlbaum, 1988b, pp 79-122
26. Steinberg L: Interdependence in the family: Autonomy, conflict, and harmony in the parent-adolescent relationship, in Feldman SS, Elliot GR (eds): At the Threshold: The Developing Adolescent. Cambridge, MA, Harvard University Press, 1990
27. Hill JP: Adapting to menarche: Familial control and conflict, in Gunnar M, Collins WA (eds), Minnesota Symposia on Child Development, vol 21. Hillsdale, NJ, Erlbaum, 1988, pp 43-47
28. Steinberg L: Reciprocal relations between parent-child distance and pubertal maturation. *Dev Psychol* 24:122-128, 1981
29. Steinberg L: Interdependence in the family: Autonomy, conflict, and harmony in the parent-adolescent relationship, in Feldman SS, Elliot GR (eds): At the Threshold: The Developing Adolescent. Cambridge, MA, Harvard University Press, 1990
30. Bloss P: The initial stage of male adolescence. *Psychoanal Study Child* 20:145-164, 1965
31. Blyth DA, Simmons RG, Carlton-Ford S: The adjustment of early adolescents to school transitions. *J Early Adolesc* 3:105-120, 1983
32. Hunt DE: Person-environment interaction: A challenge found wanting before it was tried. *Rev Educ Res* 45:209-230, 1975
33. Barker R, Gump P: Big school, small school: High school size and student behavior. Stanford, CA, Stanford University Press, 1964

34. Brookover R, Beady C, Flood P, Schweitzer J, Wisenbaker J: School social systems and student achievement: Schools can make a difference. New York, NY, Praeger, 1979
35. Fraser BJ, Fisher DL: Predicting students' outcomes from their perceptions of classroom psychosocial environment. *Am Educ Res J* 19:498-515, 1982
36. Moos RH: Evaluating educational environments. San Francisco, CA, Jossey-Bass, 1979
37. deCharms R: The origins of competence and achievement motivation in personal causation, in *Fiens LJ Jr. (ed): Achievement Motivation: Recent Trends in Theory and Research*. New York, NY, Plenum, 1980, pp 22-23
38. Deci EL, Ryan RM: The support of autonomy and the control of behavior. *J Pers Soc Psychol* 53:1024-1037, 1987
39. Deci EL, Ryan RM: *Intrinsic Motivation and Self-Determination in Human Behavior*. New York, NY, Plenum, 1985
40. Higgins ET, Parsons JE: Social cognition and the social life of the child: Stages as subcultures, in *Higgins ET, Ruble DW, Hartup WW (eds): Social Cognition and Social Behavior: Developmental Issues*. New York, NY, Cambridge University Press, 1983, pp 15-62
41. Lewin K: *A Dynamic Theory of Personality*. New York, NY, McGraw-Hill, 1935
42. Brophy JE, Everston CM: *Learning from Teaching: A Developmental Perspective*. Boston, MA, Allyn and Bacon, 1976
43. Midgley C, Feldlaufer H, Eccles JS: The transition to junior high school: Beliefs of pre- and post-transition teachers. *J Youth Adolesc* 17:543-562, 1988b
44. Lee P, Statuto C, Kedar-Voivodas G: Elementary school children's perceptions of their actual and ideal school experience: A developmental study. *J Educ Psychol* 75:838-847, 1983
45. Midgley C, Feldlaufer H: Students' and teachers' decision-making fit before and after the transition to junior high school. *J Early Adolesc* 7:225-241, 1987
46. Midgley C, Feldlaufer H, Eccles JS: Student/teacher relations attitudes toward mathematics before and after the transition to junior high school. *Child Dev* 60:375-395, 1988a
47. Rounds TS, Oakes SY: *The Social Organization of Classrooms: An Analysis of Sixth- and Seventh-grade Activity Structures*. Report EPSSP-82-5. San Francisco, CA, Far West Laboratory, 1982
48. Oakes J: *Tracking policies and practices: School by school summaries. A Study of Schooling: Technical Report No. 25*. Los Angeles, CA, University of California Graduate School of Education, 1981
49. Rosenholtz SJ, Simpson C: The formation of ability conceptions: Developmental trend of social construction? *Rev Educ Res* 54:301-325, 1984
50. Finger JA, Silverman M: Changes in academic performance in the junior high school. *Personnel Guidance J* 45:157-164, 1966
51. Kavrell SM, Peterson AC: Patterns of achievement in early adolescence, in *Maehr ML (ed): Advances in Motivation and Achievement*. Greenwich, CT, JAI Press, 1984, pp 1-35
52. Miller CL, Eccles JS, Flanagan C, et al: Parents' and teachers' beliefs about adolescents: Effects of sex and experience. *J Youth Adolesc* 19:363-394, 1990
53. Midgley C, Feldlaufer H, Eccles JS: Change in teacher efficacy and student self- and task-related beliefs during the transition to junior high school. *J Educ Psychol* 81:247-258, 1989
54. MacIver D, Reuman DA: Decision-making in the classroom and early adolescents' valuing of mathematics. Presented at the annual meeting of the American Educational Research Association, New Orleans, LA, April, 1988
55. Cowen EL: In pursuit of wellness. *Am Psychol* 46:404-408, 1991
56. Rae-Grant N, Thomas H, Offord DR, et al: Risk, protective factors, and the prevalence of behavioral and emotional disorders in children and adolescents. *J Am Acad Child Adolesc Psychiatry* 28:262-268, 1989
57. Eccles JS, Lord SE, Roeser RW: Round holes, square pegs, rocky roads, and sore feet, in *Cicchetti D, Toth SL (eds): Rochester Symposium on Developmental Psychopathology: Adolescence, Opportunities and Challenges*. Rochester, NY, University of Rochester Press, 1996
58. Epstein JL, McPartland JM: *The Quality of School Life Scale and Administrative and Technical Manual*. Boston, MA, Houghton Mifflin, 1977
59. Flanagan C: Early adolescent needs and family decision-making environments: A study of person-environment fit. Presented at the meeting of the American Educational Research Association, San Francisco, CA, April, 1986
60. Flanagan C: Adolescents' autonomy at home: Effects on self-consciousness and intrinsic motivation at school. Presented at the meeting of the American Educational Research Association, Montreal, Canada, April, 1989
61. Lord SE, Eccles JS, McCarthy K: Surviving the junior high school transition: Family processes and self-perceptions as protective and risk factors. *J Early Adolesc* 14:162-199, 1994
62. Yee DK: Participation in family decision-making: Parent and child perspectives. Presented at the meeting of the Society for Research in Child Development, Baltimore, MD, April, 1987
63. Yee DK, Flanagan C: Family environments and self-consciousness in early adolescence. *J Early Adolesc* 5:59-68, 1985
64. Baumrind D: Current patterns of parental authority. *Dev Psychol Monogr* 4:1, 1971
65. Ryan RM, Lynch JH: Emotional autonomy versus detachment: Revisiting the vicissitudes of adolescence and young adulthood. *Child Dev* 60:340-356, 1989

### Meeting Announcement

The SOCIETY FOR DEVELOPMENTAL AND BEHAVIORAL PEDIATRICS will conduct its 14th Annual Scientific Meeting and Workshops on September 26-30, 1996, at the Hyatt Fisherman's Wharf in San Francisco, California. The SDBP Lectureship will be awarded to Arthur H. Parmelee, M.D. For further information and registration forms, please contact Ms. Noreen Spota at 215-248-9168.