What Are We Doing to Early Adolescents? The Impact of Educational Contexts on Early Adolescents

JACQUELYNNE S. ECCLES and SARAH LORD
University of Colorado

CAROL MIDGLEY
University of Michigan

For some children, the early adolescent years mark the beginning of a downward spiral in school-related behaviors and motivation that often lead to academic failure and school dropout. Although these declines are not so extreme for most adolescents, there is sufficient evidence of gradual decline in various indicators of academic motivation, self-perceptions, and school-related behaviors over the early adolescent years to make one ask why. Several investigators have proposed that these declines could result from the types of educational contexts to which many adolescents are exposed during the middle-grade years. This hypothesis is explored in this article. First, the results of analyses using the eighth-grade cohort from the National Educational Longitudinal Study comparing student outcomes in different types of middle-grade school settings are reported. Second, the results of several relevant studies assessing the impact of specific school environmental characteristics on the course of change in early adolescents' school-related motivation are reported.

For some children, the early adolescent years mark the beginning of a downward spiral in school-related behaviors and motivation that often lead 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 dropout. Similarly timed developmental declines have been doc-
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umented for such motivational constructs as interest in school (Epstein and McPartland 1976), intrinsic motivation (Harter 1981), self-concepts and/or self-perceptions (Eccles et al. 1984; Simmons et al. 1979), and confidence in one's intellectual abilities, especially following failure (Parsons and Ruble 1977). There are also reports of age-related increases during early adolescence in such negative motivational and behavioral characteristics as test anxiety (Hill 1980), learned helpless responses to failure (Rholes et al. 1980), focus on self-evaluation rather than task mastery (Nicholls 1980), and both truancy and school dropout (Rosenbaum 1976; see Eccles et al. [1984] for a full review). Although these changes are not extreme for most adolescents, there is sufficient evidence of gradual decline in various indicators of academic motivation, behavior, and self-perception over the early adolescent years to make one wonder what is happening (see Eccles and Midgley [1988] for a review).

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 (see, e.g., Blos 1965). 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 (see, e.g., Blyth et al. 1983; Simmons and Blyth 1987). Drawing upon cumulative stress theory, these theorists suggest that declines in motivation result from the fact that adolescents making the transition to junior high school at the end of grade 6 must cope with two major transitions: pubertal change and school change. And, since coping with multiple transitions is more difficult than coping with only one, these adolescents are at greater risk of negative outcomes than adolescents who only have to cope with pubertal change during this developmental period. To test this hypothesis, Simmons and her colleagues have compared the pattern of changes on early adolescents' school-related outcomes for children who move from sixth to seventh grade in a K–8, 9–12 system with the pattern of changes for children who make the same grade transition in a K–6, 7–9, 10–12 school system. This work unconfounds the

JACQUELYNNE S. ECCLES is a professor of psychology at the University of Colorado and a research scientist at the Institute for Social Research at the University of Michigan. SARAH LORD is a graduate student in developmental clinical psychology working with J. S. Eccles at the University of Colorado. CAROL MIDGLEY is a research scientist at the School of Education at the University of Michigan.
conjoint effects of age and transition operating in most developmental studies of this age period. These researchers find clear evidence, especially among girls, of greater negative change among children making the junior-high-school transition than among children remaining in the same school setting. For example, in Simmons and Blyth (1987), girls moving into and through the traditional junior-high-school system show a more marked decline in their self-esteem during early adolescence than girls in the K—8 school districts. But are these differences due to the fact that one group of girls made a major school transition at the time of their pubertal changes, 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 (see Simmons and Blyth 1987) now argue for the latter.

Similarly, Eccles and her colleagues have suggested that the changing nature of the educational environments experienced by many early adolescents is a plausible explanation for the declines associated with the junior-high-school transition (Eccles et al. 1984; Eccles and Midgley 1988). Drawing upon person-environment fit theory (see Hunt 1975; Mitchell 1969), Eccles and Midgley (1988) proposed that these motivational and behavioral declines could result from the fact that junior high schools are not providing appropriate educational environments for early adolescents. According to person-environment theory, behavior, motivation, and mental health are influenced by the fit between the characteristics individuals bring to their social environments and the characteristics of these social environments. More 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 or be very motivated if they are in social environments that do not fit their psychological needs. If the environment of the typical junior high school does not fit very well with the psychological needs of adolescents, then person-environment fit theory would predict a decline in the adolescents' motivation, interest, performance, and behavior as they move into this environment.

Clearly, then, Eccles and Midgley (1988) are suggesting that the declines in motivation and behavior are linked to the characteristics of the educational environments to which early adolescents are exposed. This perspective is elaborated in this paper. Several investigators have stressed how crucial the early adolescent years are for individual development (Hamburg 1974). At the same time, many have bemoaned the quality of the junior-high-school environment: for example, ac-
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cording to Silberman (1970), “the junior high school, by almost unan-
imous agreement, is the wasteland—one is tempted to say cesspool—
of American education” (p. 324). What is likely to happen when we
put adolescents into these “wastelands”? This question is the focus of
this article.

First, we summarize the results of a series of analyses we have just
completed using the eighth-grade cohort from the National Educational
Longitudinal Study (NELS; Center for Educational Statistics 1989)
comparing student outcomes in different types of middle-grade school
settings. These analyses allow us to determine whether the declines
reported in the literature are characteristic of all early adolescents or
are more likely to be true for adolescents who are being educated in
the typical middle-grade educational settings (i.e., junior high schools
and middle schools). The work by Simmons and her colleagues clearly
suggests that the negative declines in behavior, motivation, and per-
formance may not be true of adolescents in K–8 schools. Since these
students do not experience a major school transition in conjunction
with pubertal development, they should be less at risk for negative
behavioral and motivational outcomes. Their studies, however, used
local samples. The NELS data provide an excellent opportunity to test
the generalizability of their results.

If the Simmons findings are replicated in the NELS data set, then
it will be important to understand why. Is the difference due to the
transition experience per se or to something about the nature of these
two types of educational environments? To look at this question, we
next summarize a series of control analyses done with the NELS data.
These analyses are designed to test whether the school-grade-structure
effects still hold when the most obvious covariates of school grade
structure are statistically controlled. If the size of the school-grade-
structure effects is reduced by entering these environmental covariates,
then the school-grade-structure effect is not likely to result only from
the presence or absence of a school transition during the early adolescent
years. This pattern of results would suggest that there is something
about the educational environments associated with the different school
grade structures that differentially affect the motivation, behavior, and
interest of early adolescents.

The third set of studies we summarize were designed to look more
closely at this last issue. These studies were done by Eccles and her
colleagues. They focus on two critical goals: (1) identifying the specific
nature of the changes in the educational environments to which early
adolescents are exposed, and (2) assessing the impact of these changes
on early adolescents’ school-related outcomes.
The Relation of School Structure to Early Adolescents' Academic Motivation, Self-Perceptions, Behavior at School, and Achievement

In the spring of 1988, a nationally representative sample of eighth graders and a subset of their teachers and school principals participated in the first wave of NELS (Center for Educational Statistics 1989). These base-year data comprise the first stage of a major longitudinal effort to study critical educational transitions, and to look at the contexts and environmental factors that influence students' responses to these transitions. The base-year data were gathered on a national stratified probability sample containing 24,599 eighth graders drawn from 1,052 schools (approximately 24 per school). Teacher and parent questionnaires were also obtained for the vast majority of these students.

Participating students completed a self-administered questionnaire designed to solicit information about basic family background characteristics, and about students' perceptions of schoolwork and their school environment, as well as about their aspirations, motivation, self-concept, and social relationships. Students also completed a series of curriculum-based cognitive tests assessing their competence in four subject areas (reading, mathematics, science, and social studies), two of which (mathematics and reading) we used as indicators of school achievement. The teacher questionnaire assessed school and teacher characteristics, course content, and classroom teaching practices, as well as a number of evaluations of individual students' psychological characteristics and motivation. The family questionnaire contained questions used to determine family socioeconomic status (SES), as well as a variety of other information relevant to family influences on student outcomes. Since the results summarized here come from a technical report (see Eccles and Lord 1991) rather than a journal article, we provide more details on the methodology we used with the NELS data than we provide for the school environment studies we summarize later in the paper.

The Appendix lists the student outcome variables used in our NELS analyses and provides sample items. We selected scales and items that were most closely related to the types of student motivational and behavioral outcomes reported in the literature as showing negative changes during the early adolescent period. These included grades, locus of control, self-concept, preparedness for class, absenteeism, school violence, and substance abuse while at school. Although some of these could be considered aspects of the school environment instead
of student outcomes, we decided to classify them as student outcomes in order to get as broad a picture as possible of the relationship between school grade structure and student behavior, interest, and motivation.

There were seven different school types represented in the NELS study. For the purposes of this article, schools with four types of grade configurations were compared: P/K/1–8 ($N = 176$), 6–8 ($N = 242$), 7–8 ($N = 181$), and 7–9 ($N = 160$). Because middle-school philosophy is much different from junior-high-school philosophy and because students moving into middle schools make the school transition one year earlier than students moving into junior high schools, we thought it was important first to test whether student outcomes differed across these two school structures (i.e., the 6–8 middle-school structure and the 7–8 or 7–9 junior-high-school structure). They did not. This lack of difference is very interesting. Many educators and educational researchers have advocated the advantages of a middle-school environment for early adolescents over the junior-high-school-type environment. In fact, the recent report by the Carnegie Council on Adolescent Development (1989) on education for the middle grades recommends educational practices basically consistent with the practices advocated in the middle-school philosophy (namely, smaller groups of students working with a consistent set of teachers, less bureaucratic structure, more personal contact between students and teachers, more team teaching, less departmentalization, less curricular tracking, less emphasis on normative grading, and more emphasis on objectives-based grading practices). Unfortunately, several investigators (see Eccles and Midgley 1988) have noted that middle schools often do not follow middle-school philosophy. More often than not, middle schools look like, and operate very similarly to, traditional junior high schools. The results reported here are consistent with this view. We are in the process of trying to develop some composite indicators that will allow us to identify middle schools according to the degree to which they have incorporated the middle-school philosophy into their programs. But this is turning out to be quite difficult given the types of measures included in the NELS survey instruments.

The lack of differences between middle schools and junior high schools also calls into question the age-at-transition explanation for the declines in motivation and school interest associated with the junior-high-school transition summarized earlier. As noted earlier, several people have suggested that these declines result from the coincidence of the junior-high-school transition with the timing of pubertal changes. If this were true then we should see a significant middle-school advantage because the middle-school transition occurs before the onset of the
major physical pubertal changes for most early adolescents. This is not the case. We will say more about this issue later.

Given the lack of significant differences between middle schools and junior high schools, we collapsed this distinction and compared student outcomes for students in the P/K/1-to-eighth-grade span with student outcomes for students in the other three more typical school grade structures (i.e., grades 6–8, grades 7–8, and grades 7–9). The results are summarized in tables 1 and 2. Table 1 summarizes the effects of school grade structure on school-level student outcomes on the basis of both teacher and student reports. Table 2 summarizes the effects of school grade structure on student-level outcomes on the basis of student reports. The numbers reported represent the unstandardized regression coefficients for the contrast-codes predictor variable with the proportion of variance explained presented in parenthesis. Grade-span contrast codes set P/K/1-to-eighth-grade schools as +1 and the other three school grade configurations to −1. Because we used contrast-coded predictors, the regression coefficient is an index of the differences between the means of the contrasted groups (P/K/1-to-eighth-grade schools vs. the other three middle-school/junior-high-school grade structures). The first column in each table gives the unstandardized regression coefficients for the school-grade-structure contrast without any covariates included in the regression analyses. Clearly, student outcomes are better in the K–8 schools than in the other three more typical middle-grades school structures. Both teachers and students believe that truancy, student violence, and substance abuse at school is higher in the more typical middle-grades school structures. Similarly, students in K–8 believe that they are more prepared for, and interested in, classwork than students in other school structures. In addition, students in K–8 schools report higher self-concepts and greater locus of control. They also receive higher grades and do better on standardized achievement tests.

Why? It is always possible that these student-outcome differences are a result of variations in the types of students who attend these different school structures. Many K–8 schools are private, and many are in rural settings. These characteristics of K–8 schools could account for the effects reported above because they could result in a different type of student body, rather than because they are associated with a different type of grade transition or a different type of school environment. If a higher proportion of the students in K–8 schools compared with the other three school grade structures are wealthy or live in small nonurban communities, then these student-outcome differences could be an artifact of the type of student who attends these various
**Table 1**

The Differential Influence of K-to-Eighth-Grade versus Middle and Junior High Schools on Student and Teacher Reports of School Problems

<table>
<thead>
<tr>
<th>Effect When Controlling For</th>
<th>No Control (1)</th>
<th>SES (2)</th>
<th>Urbanization (3)</th>
<th>Public (-) versus Private (+) (4)</th>
<th>Religious Affiliated (-) versus No Religious Affiliation (+) (5)</th>
<th>School Size (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student ratings:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School absenteeism</td>
<td>.141 (.054)</td>
<td>.141 (.054)</td>
<td>.149 (.059)</td>
<td>.086 (.013)</td>
<td>.104 (.018)</td>
<td>.109 (.030)</td>
</tr>
<tr>
<td>School violence</td>
<td>.092 (.030)</td>
<td>.095 (.027)</td>
<td>.097 (.028)</td>
<td>.060 (.007)</td>
<td>.064 (.007)</td>
<td>.076 (.015)</td>
</tr>
<tr>
<td>Substance abuse</td>
<td>.150 (.040)</td>
<td>.157 (.044)</td>
<td>.153 (.042)</td>
<td>.127 (.019)</td>
<td>.104 (.011)</td>
<td>.135 (.029)</td>
</tr>
<tr>
<td>Teacher ratings:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School absenteeism</td>
<td>.179 (.116)</td>
<td>.173 (.115)</td>
<td>.192 (.135)</td>
<td>.070 (.011)</td>
<td>.099 (.028)</td>
<td>.129 (.060)</td>
</tr>
<tr>
<td>School violence</td>
<td>.140 (.123)</td>
<td>.135 (.120)</td>
<td>.144 (.130)</td>
<td>.058 (.018)</td>
<td>.085 (.038)</td>
<td>.110 (.073)</td>
</tr>
<tr>
<td>Substance abuse</td>
<td>.195 (.129)</td>
<td>.193 (.128)</td>
<td>.192 (.124)</td>
<td>.124 (.032)</td>
<td>.128 (.041)</td>
<td>.169 (.089)</td>
</tr>
</tbody>
</table>

Note.—Column 1 represents the effect of the K–8 vs. middle/junior-high-school contrast on the school problem variables without any controls. Numbers represent the unstandardized regression coefficient for the contrast. The numbers in parentheses represent the proportion of variance explained by the contrast. Columns 2–6 represent the effect of the K–8 vs. other contrast on the dependent variables when the variable heading the column is controlled for, in turn. All coefficients are significant at the P < .001 level.
### TABLE 2

The Differential Influence of K-to-Eighth-Grade versus Middle and Junior High Schools on Student-Outcome Measures as Reported by Students Only

<table>
<thead>
<tr>
<th>EFFECT WHEN CONTROLLING FOR</th>
<th>NO CONTROL</th>
<th>SES</th>
<th>Urbanization</th>
<th>Public (−) versus Private (+)</th>
<th>Religiously Affiliated (−) versus No Religious Affiliation (+)</th>
<th>School Size (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td></td>
</tr>
<tr>
<td>Reading</td>
<td>.036*** (.006)</td>
<td>.022*** (.003)</td>
<td>.036*** (.006)</td>
<td>−.030*** (.003)</td>
<td>N.S.</td>
<td>.029*** (.004)</td>
</tr>
<tr>
<td>Math</td>
<td>.039*** (.003)</td>
<td>.014*** (.0004)</td>
<td>.037*** (.003)</td>
<td>−.093*** (.011)</td>
<td>N.S.</td>
<td>.031*** (.002)</td>
</tr>
<tr>
<td>Grades</td>
<td>.044*** (.007)</td>
<td>.030*** (.004)</td>
<td>.046*** (.008)</td>
<td>N.S.</td>
<td>N.S.</td>
<td>.041*** (.005)</td>
</tr>
<tr>
<td>Locus of control</td>
<td>.037*** (.003)</td>
<td>.024*** (.002)</td>
<td>.034*** (.003)</td>
<td>.011*** (.0002)</td>
<td>N.S.</td>
<td>.030*** (.002)</td>
</tr>
<tr>
<td>Self-concept</td>
<td>.020*** (.001)</td>
<td>.020*** (.001)</td>
<td>.019*** (.001)</td>
<td>N.S.</td>
<td>.011* (.0002)</td>
<td>.027*** (.002)</td>
</tr>
<tr>
<td>Preparedness</td>
<td>.032*** (.005)</td>
<td>.026*** (.003)</td>
<td>.031*** (.004)</td>
<td>.013*** (.003)</td>
<td>.018*** (.001)</td>
<td>.026*** (.003)</td>
</tr>
</tbody>
</table>

Note.—Column 1 represents the effect of the K−8 vs. middle/junior-high-school contrast on the student-outcome variables without any controls. Numbers represent the unstandardized regression coefficient for the contrast. The numbers in parentheses represent the proportion of variance explained by the contrast. Columns 2–6 represent the effect of the K−8 vs. other contrast on the dependent variables when the variable heading the column is controlled for.

* $P < .05$.

*** $P < .001$. 

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types of schools. To test for this possibility, we ran the regression again controlling in turn for family SES (taken from parent data) and then for the urbanization of the setting in which the school resides. These results are summarized in tables 1 and 2, columns 2 and 3. Each column contains the unstandardized regression coefficient for the school-structure contrast with family SES (col. 2) and urbanization (col. 3) controlled for each of our student outcomes. Although the size of the school-structure effect is decreased for some of the student outcomes, the school-structure coefficients are still significant for all of the student outcomes studied. These results suggest family-of-origin effects and community setting do not account for the school-grade-structure differences.

Are the results due to variations in the educational environments in these different types of schools? To answer this question fully would require extensive information on the educational environments in each of these different types of schools. Although the NELS data set does not contain as extensive a set of relevant, detailed information as one would like, it does contain some indicators of the school setting that are likely to be associated with differences in educational environments. Primary among these are school size, whether the school is public or private, and whether the school is religiously affiliated or not. Other investigators (e.g., Bryk et al. 1989; Chubb and Moe 1990; Coleman and Hoffer 1987) have provided some preliminary evidence that these types of formal characteristics of a school are related to the educational environment experienced by the teachers and students in the school on a day-to-day basis. If so, then controlling for these characteristics of the school should reduce the size of the relationship between school grade structure and student outcomes.

To test this hypothesis, we ran the regressions again using contrast codes to control in turn for whether the school was private or public and then whether the school was religiously affiliated or not. We also ran the regressions again controlling for the size of the school (total school enrollment). The results for all of these analyses are summarized in tables 1 and 2, columns 4, 5, and 6. Each column contains the unstandardized regression coefficient for the school-structure contrast with publicness (col. 4), religious affiliation (col. 5), and school size (col. 6) controlled, respectively.

The pattern of relations between school grade structure and student outcomes remains largely unchanged when controlling for the size of the school. Some of the effect sizes, however, are reduced, which suggests some impact of environmental characteristics associated with school size on student outcomes. Several investigators have argued that school size influences such school environmental characteristics.
as teachers' sense of efficacy, extent of bureaucratic formalization of adult-student interactions, and sensitivity of the system to individual differences and needs, as well as the breadth of resources available to the students and teachers (see, e.g., Bryk et al. 1989; Carnegie Council on Adolescent Development 1989). Schools that are very large are more likely to have formalized adult-student interactions and lowered sensitivity to individuals' needs. The teachers in such schools are also more likely to doubt their ability to teach all students in the school. Our results from the NELS data set are consistent with these characterizations: These analyses indicated that the larger the school size, the less efficacious the teachers felt ($\beta = -0.032$), and the more absenteeism ($\beta = -0.086$), violence ($\beta = -0.047$), and substance abuse ($\beta = -0.059$) were reported as being a major problem at the school by both teachers and students (the last three negative beta weights reflect the coding of the dependent variable: a high score coincides with the label that this outcome is not a problem at the school). In addition, the P/K/1-to-eighth-grade schools were smaller on the average than the other three types of schools ($P < 0.001$). Such differences in school environment could account for both the elevated self-concept and locus of control and the lowered violence and absenteeism associated with the K–8 school grade structure.

The relations do change, however, when controlling for the two school-type contrast codes. When controlling for public versus private, the relations between grade span and grade point average (GPA), and self-concept become nonsignificant and relations between grade span and the performance on achievement tests are reversed: Students in the P/K/1-to-eighth-grade structure do worse than the other students once the effects of public versus private school type are controlled. This reversal probably reflects the fact that many of the P/K/1-to-eighth-grade schools are private (74 percent), and the performance levels of students in private schools are higher than those of students in public schools ($P < 0.01$). When controlling for the religious versus nonreligious orientation of the schools, the grade-span contrasts become nonsignificant for the scores on the achievement tests, and locus of control, and the strength of the effects for GPA and self-concept is markedly reduced. Clearly, the prevalence of private and religious schools among the P/K/1-to-eighth-grade schools accounts for much of the difference found in these analyses comparing P/K/1-to-eighth-grade schools with middle and junior high schools.

These school-type findings are, of course, consistent with other studies of the impact of these school-type variables on student outcomes (see Coleman and Hoffer 1987; Chubb and Moe 1990). They suggest that the school-grade-structure differences uncovered by Simmons and her
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colleagues and in the NELS data summarized above are not just the consequence of the presence or absence of a school transition during early adolescence. The extent of the grade-structure effect depends on characteristics of the schools themselves that are separable from the existence of a school transition. What is important from our perspective is trying to uncover the specific school-environment characteristics that contribute to this effect so that we can design better educational environments for early adolescents—environments that do not produce declines in early adolescents’ school-related motivation and behavior.

In summary then, these results, in conjunction with the results of studies summarized in the introduction, suggest that the nature of middle-grades school environment affects the motivation, school attachment, and academic performance 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 and Midgley 1988; Simmons and Blyth 1987). Simmons and her colleagues proposed the first such hypothesis (see Simmons and Blyth 1987). 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 stresses 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’s work have compared the effects of school transitions at different grade levels. The results of these studies are largely inconsistent and inconclusive (see conflicting results from Nottelmann 1987; Petersen et al. 1987; Simmons and Blyth 1987; and Thornburg and Jones 1982). Why? 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. We believe that the nature of the changing school environment, as well as its timing, must be considered. The fact that many of the advantages of the P/K/1–8 school structure disappear when one controls for the school type supports this hypothesis. This finding suggests that the presence or absence of a major school transition is less critical than the type of school the child is in during the early adolescent years. They also suggest that we need to move beyond comparisons of grade-structure effects to comparisons of educational environments if we
want to be able to design better educational settings for early adolescent students.

Consistent with these suggestions, Eccles and her colleagues have argued that the kinds of changes in school environmental characteristics that many early adolescents experience during the transition to junior high school are very likely to produce negative outcomes for a significant number of early adolescents—particularly those who are already having difficulties either with school or in terms of their social development (see Eccles and Midgley [1988] for a review). To study this hypothesis, one must compare student outcomes for early adolescents moving into and through different school environments during their early adolescent years. Eccles and her colleagues have been doing this type of research for the past 10 years. The remainder of this article summarizes briefly this research. These studies focus on the junior-high-school transition. They are an attempt to identify the characteristics of typical junior-high-school environments that put early adolescents at risk for negative motivational and behavioral changes as they move into and through junior high school.

Environmental Changes Associated with the Junior-High-School Transition

In their literature review, Eccles and Midgley (1988) concluded that there are four types of systematic changes in the classroom environment associated with the junior-high-school transition. First, junior-high-school classrooms, as compared with 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. It seems likely that these differences in control characterize the whole school building as well. 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 is likely to encourage the use of social comparison and ability self-assessment, leading to a decline in the motivation of all but the most able students. 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. 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, which leads to a decline in the grades received by most students (see Eccles and Midgley [1988] for
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details on these studies and references). In addition to these classroom-level environmental changes, there are also substantial increases in school size, departmentalized instruction, and prevalence of bureaucratic administrative structures (see Simmons and Blyth 1987).

Eccles and Midgley (1988) argued that these changes are particularly harmful at early adolescence given what is known about the psychological changes at this stage of life. Early adolescent development is characterized by increases in the following: desire for autonomy from adult control, especially from one’s parents’ control; peer orientation, self-focus, self-consciousness, and salience-of-identity issues; concern over sexual relationships; and capacity for abstract cognitive activity. Simmons and Blyth (1987) have argued that adolescents need a reasonably safe, as well as an intellectually challenging environment to meet these developmental tasks—a 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 over one’s own life is growing; they emphasize lower-level cognitive strategies at a time when the ability to use higher-level strategies is increasing; 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 of the home; and they reduce the opportunity for close relationships with adults at a time when adolescents need to turn to nonfamilial adults for role models if they are to achieve independence from their parents. 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, which increases the risk of negative motivational outcomes, especially for adolescents already at some risk due to their prior school, family, and/or peer experiences.

In order to test these hypotheses, Eccles and her colleagues 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 as the students moved into the junior-high-school setting. The sample was drawn from 12 school districts located in middle-income communities in southeastern Michigan. School districts were selected so that they varied in the nature of the junior-high-school environment along the dimensions outlined above (i.e., extent of teacher control,
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use of ability grouping and tracking, grading practices, and teacher attitudes). Ninety-five percent of the eligible teachers and 79 percent of their students agreed to participate. All of these students made a transition from sixth grade in elementary school to seventh grade in junior high school during the course of the study. A total of 1,350 students participated at all four waves of the study. Questionnaires were administered to students during regular class on two consecutive days in each wave (fall and spring of 1983–84 and fall and spring of 1984–85). In addition, a large subset of the classrooms were observed by trained field staff for five consecutive days during late October or November each year.

Environmental Changes between Sixth and Seventh Grades

The first goal was to assess differences in the beliefs and behaviors of the teachers these students had before and after the junior-high-school transition. To do this, the responses of the students' sixth-grade teachers in year one were compared with those of the same students' seventh-grade teachers in year two (see Midgley et al. [1988b] for a full description of this study). As predicted, the seventh-grade teachers believed students needed more discipline and control than did sixth-grade teachers; and the seventh-grade teachers rated the students as less trustworthy than did the sixth-grade teachers. Finally, the seventh-grade teachers felt significantly less efficacious than did sixth-grade teachers in their ability to influence the learning of all of their students.

Similar patterns emerged for the students' and observers' perceptions of the quality of student-teacher relationships before and after the transition (see Feldlaufer et al. [1988] for a complete description of these differences). The seventh-grade teachers were seen as less supportive, friendly, and fair than the sixth-grade 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 would promote a focus on ability self-perceptions rather than on task mastery.

Impact of Environmental Changes on Student Motivation

Eccles and her colleagues have completed a series of studies looking at the impact of the differences in the teacher beliefs and practices before and after the transition on early adolescents' motives, values,
beliefs, and behaviors. One study focused on the changes in teacher efficacy (Midgley et al. 1989). To assess the impact of change in teacher efficacy on student beliefs, the students ($N = 1,329$) were divided into four groups on the basis of median splits of their sixth- and seventh-grade teachers’ ratings of their personal teaching efficacy. The largest group of students (559 out of the 1,329) moved from a high-efficacy sixth-grade teacher to a low-efficacy seventh-grade teacher. Another 474 students 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 percent of this sample of students moved to a low-teacher-efficacy classroom in the seventh grade.

As predicted, the students who moved from high-efficacy to low-efficacy teachers over the transition (the most common pattern) ended their first year in junior high school with lower expectancies for their own performance and lower perceptions of their actual performance than students who experienced either no change in teacher efficacy or who moved from low- to high-efficacy teachers. Also as predicted, the negative shift in teacher-efficacy beliefs add a stronger impact on the low-achieving students than on the high-achieving students: By the end of the junior-high-school year, the confidence that the low-achieving students who had moved from high- to low-efficacy teachers (the most common experience) had in their own performance and competence had declined dramatically.

As reported earlier, student-teacher relationships in this sample also deteriorated after the transition to junior high school (Feldlaufer et al. 1988). In a second study, the impact of this change on student motivation was assessed (Midgley et al. 1988a). As predicted, when students moved from elementary teachers they perceived to be high in support to teachers they perceived to be low in support, they lowered the value they attached to particular school subjects. In contrast, students who moved from teachers they perceived to be low in support to teachers they felt were high in support increased the value they attached to the school subject. Unfortunately, the latter pattern of change was far less frequent than the former pattern of change. And, once again, the evidence indicated that low-achieving students were particularly at risk when they moved to less facilitative classroom environments after the transition.

Both of these studies show that the average decline in adolescents’ school-related motivation is linked to the type of change in classroom environment that they experience as they move into junior high school. These studies also show that the decline many children suffer in their motivational orientation as they make the junior-high-school transition is not inevitable. The decline appears to be linked to rather specific
classroom environmental characteristics, such as the quality of the student-teacher relationship. This suggests that transitions themselves are neither inherently good nor bad for students at this age. Transitions to a more positive environment are as likely to produce positive change as transitions to more negative environments are to produce negative change. Unfortunately, most early adolescents experience a shift to a more negative school environment.

Neither of these studies, however, directly tests the person-environment fit hypotheses outlined earlier. Two sets of recent analyses test these developmental person-environment fit hypotheses more directly (see Midgley and Feldlaufer [1987] and Mac Iver and Reuman [1988] for a full description of these studies). Midgley and Feldlaufer (1987) compared student and teacher perceptions of actual and preferred decision-making opportunities in the classroom over the two years of the study. Yoked pairs of items developed by Lee et al. (1983) were used. As predicted, the students expressed a desire for more input into decision making after they moved into the junior high school. Unfortunately, both the students and teachers reported that students are given fewer decision-making opportunities in the seventh grade (after the transition) than they were given in the sixth grade. As a result, there was greater discrepancy between students’ desires and the opportunities afforded by the environment in the seventh grade than the same students reported experiencing in the sixth grade. Furthermore, the nature of this discrepancy was increasingly developmentally regressive (i.e., they were experiencing decreasing opportunity for autonomy and self-control as they got older rather than the increasing opportunities they felt they deserved because of their increasing maturity).

How might such a change in “fit” influence student motivation? Eccles et al. (1984) predicted that changes in decision-making opportunities ought to affect changes in students’ interest in the subject matter. Furthermore, given the general developmental progression toward the desire for greater independence and autonomy during the early adolescent period (Lee et al. 1983), it is likely that students experiencing 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 interest in the subject matter being studied. In a longitudinal analysis of Lee et al.’s (1983) items, Mac Iver and Reuman (1988) provide some support for this idea. Mac Iver and Reuman compared the changes in intrinsic interest of students reporting different patterns of change in their responses to the actual and preferred decision-making items across the junior-high-school transition. Consistent with the prediction, the
students who perceived their seventh-grade teachers as putting greater constraints on their preferred level of participation in classroom decision making than their sixth-grade teachers evidenced the largest and most consistent declines in their interest in school subjects between the sixth and seventh grades. That is, students who experienced an increase in their unmet desire for input in classroom decision making as they moved from sixth to seventh grade showed the largest declines in their interest in school subjects as they made this school transition.

Summary and Conclusion

In this last section, we have reviewed a series of studies designed to provide an in-depth description of the classroom environment changes experienced by a large sample of early adolescents as they move through the middle grades in school. In general, these studies document the following types of change: an increase in teacher control, and a decrease in teacher efficacy and in the quality of teacher-student relationships. The studies also support the hypothesis that classroom environmental changes have a negative impact on student motivation. The results reviewed both confirm the negative consequences of these types of changes and provide evidence that a different type of change would produce positive motivational changes at this developmental period. Together, these two outcomes support the suggestion by Eccles and Midgley (1988) that the declines in motivation often assumed to be characteristic of the early adolescent period are less a consequence of the students’ developmental stage than of the mismatch between the students’ needs and the opportunities afforded them in many middle-grades school settings.

Clearly, much more work needs to be done to provide solid evidence in support of this hypothesis. Our next step will be to use the NELS data (Center for Educational Statistics 1989) to test whether school characteristics like these account for the differences in motivation and student outcomes reported earlier between eighth graders in K–8 schools and eighth graders in more traditional junior-high-school-like school settings. For example, we plan to assess whether grade-span differences in teacher efficacy, school control practices, departmentalized teaching practices, and ability-grouping practices mediate the relationship between grade span and student outcomes.

In conclusion, we are frequently asked for our recommendations regarding the restructuring of middle-years education. A simple and truthful answer would be to say that the K–8 system has many ad-
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vantages for early adolescents, but that is not the message we wish to convey. To recommend a return to the K–8 system would shift focus away from the classroom environment and back on grade ranges and time of transition. We believe this shift is not the right approach to designing optimal educational environments for early adolescents. For example, we know that changes in the student-teacher relationship across the transition to junior high school affect students' motivation and values. Certainly most K–8 systems are smaller and more personal than junior high schools. But neither reduced size nor personal contact are necessary components of the K–8 organization—it could be larger and less personal. Nor are these characteristics impossible to achieve in other grade-span structures. What is critical is the nature of the school environment—not the grade-span configuration or the timing of the transition. We recommend that serious efforts be made to improve, and expand, the nature of student-teacher relationships in schools that serve early adolescents regardless of the grades included in the schools. We are also in a position to recommend that attention be given to providing an environment that will increase the teachers' sense of efficacy. As our studies continue, we will be in a position to make other recommendations regarding ability grouping, opportunities for decision making, decision-making congruence, standards used for grading, and other classroom and teacher characteristics for early adolescents.
## Educational Contexts

### Appendix

#### Student Outcome Variables

<table>
<thead>
<tr>
<th>Construct Name</th>
<th>Sample Item</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student questionnaire:</strong></td>
<td></td>
</tr>
<tr>
<td>Absenteeism</td>
<td>Student absenteeism is not a problem</td>
</tr>
<tr>
<td>Violence</td>
<td>Student possession of weapons is not a problem</td>
</tr>
<tr>
<td>Substance abuse</td>
<td>Student use of alcohol is not a problem</td>
</tr>
<tr>
<td>Preparedness</td>
<td>How often do you come to class and find yourself without your homework done? (1 = usually, 4 = never)</td>
</tr>
<tr>
<td>Locus of control</td>
<td>Every time I try to get ahead, something or somebody stops me</td>
</tr>
<tr>
<td>Self-concept</td>
<td>I feel good about myself</td>
</tr>
<tr>
<td>Achievements</td>
<td>Math and reading achievement test scores; grade point average (GPA)</td>
</tr>
<tr>
<td><strong>Teacher questionnaire:</strong></td>
<td></td>
</tr>
<tr>
<td>Absenteeism</td>
<td>Student absenteeism is not a problem</td>
</tr>
<tr>
<td>Violence</td>
<td>Physical conflicts between students are not a problem</td>
</tr>
<tr>
<td>Substance abuse</td>
<td>Student use of illegal drugs is not a problem</td>
</tr>
</tbody>
</table>

**Note.**—Factor analyses were used to create scales when more than one item was conceptually related to the outcome of interest. All scales reported here had Cronbach’s alpha coefficients higher than .70. In addition, composite scores from the NELS data set (Center for Educational Statistics 1989) were used to assess achievement test levels, student locus of control, student self-concept, and family SES. Single-item indicators were used for GPA and for school grade structure, as well as for the following covariates: school size, school type, and urbanization. Some of the outcomes are general student outcomes based on the student and teacher ratings of the general school situation (e.g., absenteeism, level of school violence, and level of substance abuse among students at school). For these outcomes, the school is the unit of analysis on the teacher data; the student is the unit of analysis for the student data. Other outcomes are student specific and come from the student questionnaire and the student achievement data (e.g., student GPA, performance on achievement tests, locus of control, self-concept, and level of preparation for class). For these outcomes the student is the unit of analysis.

### References


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