

## **Can Middle School Reform Increase High School Graduation Rates?**

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## **ABSTRACT**

This report reviews the research literature on three major topics concerning students as they move into middle and junior high schools. The first section describes how many students disengage from the academic agenda of American schools because they either do not feel that they can succeed in these institutions or because they come to place little value or even negative value on being at school. It also explains the many ways in which experiences in and out of schools contribute to this problem.

The second section finds that the developmental declines in school engagement often observed during early adolescence are primarily a consequence of the nature of the middle years school transitions. Further, the pathway to high school drop out is often crystallized for youth at risk for school disengagement as a result of these experiences.

The last section suggests how to design middle school contexts that protect against this type of negative crystallization.

For a substantial number of America's youth, early adolescence marks the beginning of a downward spiral that eventuates in academic failure, school dropout, delinquency and substance abuse (Dryfoos, 1990; Finn, 1989, 2006; Midgley & Edelin, 1998; Simmons & Blyth, 1987; Roderick, 1993; Roeser & Eccles, 2000). This is likely to be particularly true for students of color, students from lower SES families, and for students who have had academic difficulties in elementary school (Connell et al., 1995; Connell, Spencer and Aber, 1994; Dornbusch, 1994; Eccles et al., 1998; Graham & Taylor, 2002; Okagaki, 2001; Padilla & Gonzalez, 2001; Valencia, 1991). Evidence strongly suggests that the magnitude of these declines at the shift into middle and junior high schools is a significant predictor of dropping out of secondary school before completing the requirements for a high school diploma. But even for those who go on to graduate from high school, these declines mark a major shift in school engagement. Why are such declines so prevalent in our schools? Furthermore, once this decline in engagement gets started, it is very hard to reverse when the students move on to high school. Why?

In this report, I review these general patterns of declines in academic motivation, school engagement, and academic performance commonly documented to accelerate as students move into middle and junior high schools and then into high school, and I provide potential answers to both of these questions. First, however, I provide an overview of what we know about school motivation in general. Then I review the literature on declines in motivation during the early adolescent years. In the third section, I discuss the evidence linking these declines to changes in the experiences that many young adolescents have as they make the school transition from elementary school into either junior high or middle schools. I summarize the evidence suggesting that the declines reflect developmentally inappropriate experiences in middle and junior high schools that turn many young people "off" to the educational agenda of these schools. Finally, I link these discussions to school

reform efforts likely to reduce high school drop-out rates. I provide examples of alternative educational experiences that prevent these declines and thus increase the probability of a successful secondary school trajectory leading to graduation for even the weakest students.

### **Essentials of Academic Achievement Motivation**

Eccles and Wigfield (2002) argued that the psychological aspects of academic motivation can be conceptualized in terms of two fundamental questions: “*Can I do the task?*” and “*Do I want to do the task?*” I believe that the answers to these two questions influence students’ engagement in school-based learning tasks, as well as their willingness to remain in school until graduation. If the answer to the first question (*Can I do the task?*) is “No”, then the student will be unlikely to remain in school any longer than necessary and will disengage from the academic demands as much as possible. Instead they are likely to engage in a variety of self-protective strategies designed to maintain their sense of self worth (Covington, 1992; Covington & Dray, 2002; Middleton & Midgley, 1997; Midgley, 2002; Newman, 2002; Ryan, Pintrich, & Midgley, 2001; Skaalvik, 1997). Too often, the consequences of these strategies include academic failure, withdrawal from the school’s learning agenda and school drop out.

But even if the answer to the first question is “Yes”, full and sustained engagement in school depends, at least in part, on the answer to the second question—*Do I want to do the task?* If the answer to this question is “No”, then it is also unlikely that the students will engage the academic opportunities and remain in school beyond what is required. Instead, it is likely that they will either engage in a variety of avoidance strategies, or they will put forth the minimum amount of effort necessary to avoid the negative consequences of lack of engagement. I believe that effective school reform initiatives must take into account both of these two determinants of school-related academic motivation. I also believe that changes in the school experiences associated with secondary school

transitions can influence academic achievement through their impact on the answers to both of these two questions.

Over the past 25 years, my colleagues and I have studied the motivational and social factors influencing such long and short-range achievement goals and behaviors as school grades, course selections, high school graduation, and the allocation of effort across various achievement-related activities. We elaborated a comprehensive theoretical model that links achievement-related choices, like the decision to remain or leave high school, most directly to two sets of beliefs: the individual's expectations for success and the importance or value the individual attaches to the various options perceived by the individual as available. The model also specifies the relation of these beliefs to cultural norms, experiences, aptitudes, and to those personal beliefs and attitudes that are commonly assumed to be associated with achievement-related activities (see Eccles, 1994; Eccles et al. 1998). In particular, the model links achievement-related beliefs, outcomes, and goals to interpretative systems like causal attributions and other meaning-making beliefs linked to achievement-related activities and events, to the input of socializers (parents, teachers, peers, media, members of one's neighborhood and other social groups), to various social roles and other culturally-based beliefs about both the nature of various tasks in a variety of achievement domains and the "appropriateness" of participation in such tasks, to self perceptions and self concept, to one's perceptions of the task itself, and to the processes and consequences associated with identity formation. Each of these factors is assumed to influence both the expectations one holds for future success at the various achievement-related options and the subjective value one attaches to these various options. These expectations and the value attached to the various options, in turn, are assumed to influence choice among these options.

For example, let us consider being engaged in one's own learning in school and persisting through to high school graduation. The model predicts that people will be most likely to continue in school and engage fully in learning if they have confidence in their ability to do well and place high value on doing well in school. Both evidence and theory suggest that having high confidence in one's academic potential results from a history of doing well in school subjects, as well as from strong messages from one's parents, teachers, and peers that one is academically competent (Wigfield et al., 2006). Thus, if one has had many failure experiences during the early years of school and one's parents and teachers express low confidence in one's academic abilities, then it is unlikely one will move into secondary school with sufficiently high confidence in one's own academic abilities to overcome the stresses such a transition entails.

Similarly, the personal value one attaches to learning in school is also influenced by several factors. For example, does the person enjoy doing the subject material? Is the learning activity required? Is the learning activity seen as instrumental in meeting one of the individual's long or short range goals? Is the person anxious about his or her ability to successfully master the learning material being presented? Does the person think that the learning task is appropriate for people like him or her? Do the person's parents and teachers think doing well in school is important and have they provided advice on the utility value of school success for various future life options? Finally, does working on the learning tasks interfere with other more valued options? Below, I elaborate on these two subcomponents for both individual and group differences in school achievement.

Four features of our approach are particularly important for understanding both individual and group differences in school achievement: First, we have focused on the *choice* dimension of achievement-related behavior. We believe that the conscious and non-conscious choices people make about how to spend time and effort lead, over time, to marked differences between groups and

individuals in school achievement and engagement. Of course, these academic choices are influenced greatly by the experiences one has had in school and at home.

Focusing attention on achievement-related choices reflects a second important component of our perspective; namely, the issue of what becomes a part of an individual's field of possible choices. Although individuals do choose from among several options, they do not actively, or consciously, consider the full range of objectively available options in making their selections. Many options are never considered because the individual is unaware of their existence or the individuals think these options are not realistically available to them. For example, as I discuss later, one reason to engage fully in school learning tasks is that what one learns through this investment of time and energy will increase future educational and occupational options. If students' visions of the future do not include continued education and the types of occupations linked to college education, then spending a lot of time mastering what is being taught in primary and secondary school in order to gain access to these future options is not likely to provide a positive motivational incentive. Similarly, if doing well in school itself is not seen as part of one's social or personal identities or is not encouraged by one's family and friends, then putting in the time and effort to do well in school is likely to have relatively low personal value.

Of course, the array of options that are available to each individual are also determined by a variety of socio-cultural conditions and constructs. Individuals may have little opportunity to engage in schooling due to limited availability of educational opportunities in their lifespace; for example, many children in the world live in communities that have no schools or have schools with very limited resources. Similarly, many children live in communities where attending school is difficult or even dangerous due to characteristics of the school itself or the values and survival needs of the children's families or siblings, or the dangers in the neighborhoods where the children live—dangers

linked to community violence or discrimination or war. For such children and families, few opportunities exist that would allow them to make decisions about being engaged in the academic content of school.

A third important feature of our perspective is the explicit assumption that for those children who have the option of achievement-related decisions, such as the decision to invest large amounts of time and energy into one's school work, these decisions are made within the context of a complex social reality that presents each individual with a wide variety of choices; each of which has both long range and immediate consequences. Furthermore, the choice is often between two or more positive options or between two or more options that each have both positive and negative components. For example, the decision to invest time in studying and mastering one's school work is typically made in the context of other important decisions such as whether to spend time with one's friends, or to spend time perfecting other skills, or to help out at home, or to avoid being bullied at school or discriminated against at school, or to fulfill pressing family or social obligations. One critical issue is the relative personal value of each option. Given high likelihood of success, we assume that people will then choose those tasks or behaviors that have relatively higher personal value.

Not all children or adolescents have the opportunity to even make these types of choices. Some attend schools with quite limited resources and inadequately trained teachers who may also be incapable of making the material they teach relevant to their students' lives. Others may have no schools to attend or may be prevented from attending schools because of such things as: (a) family obligations, restrictions, or inadequacies; (b) dangers in their communities related to war, violence, intolerance or discrimination; (c) social norms about who may attend school; or (d) personal physical, cognitive or emotional disabilities. Much of what I say in this paper is less relevant to such children.



Clearly these are critical influences on school engagement and motivation. They are, however, beyond the scope of this chapter.

The fourth feature of our approach is that the processes linked to both academic confidence and perceived values are both developmental and dynamic. Like many researchers interested in self processes, we assume that both personal states and situational characteristics make the various components of the self more or less salient at different times. As a result, the immediate personal value of various behaviors will fluctuate depending on the salience of different components of the self system. We also assume that the components of the self system change across developmental time in response to experience with specific tasks, changing cognitive abilities and interpretative beliefs, changing socialization pressures, and changing socio-cultural influences.

In summary, my colleagues and I assume that achievement-related choices (e.g., educational and occupational choices) when made, either consciously or non consciously, are guided by the following: (a) one's expectations for success on, and sense of personal efficacy for, the various options, as well as one's sense of competence for various tasks; (b) the relation of the options both to one's short and long range goals and to one's core personal and social identities and basic psychological needs; (c) the individual's culturally-based role schemas such as those linked to gender, social class, religious group, and ethnic group; and (d) the potential cost of investing time in one activity rather than another. All of these psychological variables are influenced by one's experiences and one's interpretation of these experiences, by cultural norms, and by the behaviors and goals of one's socializers and peers. The importance of expectations for success, and personal valuing of school more specifically, is addressed in the following section.

### ***Can I Do the Task?***

A lot of research focuses on a variety of constructs related to the question "*Can I do this task?*", including individuals' beliefs about their academic competence and self-efficacy, individuals' expectancies for academic success or failure, individuals' educational aspirations, and individuals' sense of control over their academic outcomes. In general, when students answer this question affirmatively, they perform better and are motivated to select more challenging tasks. For example, Bandura's (1997) social cognitive model emphasizes human agency and perceptions of efficacy (defined as individuals' confidence in their ability to organize and execute a given course of action to solve a problem or accomplish a task) in determining individuals' achievement strivings. High levels of academic self efficacy predict subsequent academic performance, course enrollment, and ultimate school completion and attainment (see Eccles & Wigfield, 2002; Guay, Marsh & Boivin, 2003; Pajares, 1996; Schunk & Pajares, 2002; Wigfield et al., 2006). Most importantly for this paper, personal efficacy regarding academic work has been shown to be an important predictor of academic achievement among academically struggling minority youth and other students who have difficulty mastering the school material (NRC, 2004; Roderick & Camburn, 1999). In view of this, it is particularly troubling that some current research has shown that negative racial, ethnic, gender and social class stereotypes can lead teachers and school districts to communicate low expectations for the academic achievements of some groups of students (Aronson, 2002; Aronson, Fried & Good, 2001; Brophy & Good, 1974). Furthermore, teachers' beliefs about the ability of all of their students to learn can influence what they communicate to low achieving students about their ability to master the material in their courses. Research has shown that this can be done through a variety of means including differential teacher-student face-to-face daily interactions (Jussim, Eccles, & Madon, 1996), tracking into low ability groups and then providing inferior educational experiences in these groups

(Gameran & Mare, 1989; Oakes, Gamoran, & Page, 1992; Pallas et al., 1994), failure to provide encouragement for high educational aspirations, and failure to provide high quality educational experiences that promote both current achievement levels and confidence, and lay the groundwork for continued success in future courses (Bryk, Lee & Holland, 1993).

Many school intervention experiments have focused on increasing students' sense of personal academic efficacy. By and large, these studies show that one must simultaneously teach students the skills necessary for academic success and provide efficacy training in order to increase continued school achievement (Brophy, 2004; Fosterling, 1985; Pintrich & Schunk, 2003). Efficacy training alone can actually set the students up for future academic failure. Teachers also need to develop and then maintain high academic expectations for all of their students, and need to provide all of their students with opportunities to develop high educational aspirations. Finally, teachers and principals need to make sure that racial/ethnic discriminatory experiences or negative stereotypes that communicate low academic expectations are not tolerated at school.

### ***Do I Want to Do the Task?***

Fully engaging the academic tasks at school requires a desire to do the task (Eccles & Harold, 1992; Eccles & Wigfield, 2002; Grolnick et al., 2002); thus, it is critical that the answer to this question be 'yes' if students are going to take responsibility for their own learning and maintain their engagement in the learning agenda of the school. Most motivational theorists have tried, either directly or indirectly, to identify the beliefs and experiences that increase the probability of a 'yes' answer. In this section, I summarize the research on the determinants of a desire to engage in school work and suggest ways that educational reform might address group differences in school achievement by increasing the value all students attach to their own learning.

My colleagues and I have argued that the perceived value of school work is determined by four basic constructs: (1) the enjoyment one expects to experience while engaging in the task—commonly referred to as *intrinsic interest*; (2) the extent to which engaging in the task is consistent with one's self-image or identity—referred to as *attainment value*; (3) the value of the task for facilitating one's long range goals or in helping the individual obtain immediate or long range external rewards—referred to as *utility value*; and (4) the cost of engaging in the activity. In this section, I describe each of these components and discuss how they might be related to school engagement versus disengagement.

Intrinsic Value. The term “Intrinsic Value” refers to either the enjoyment one feels when doing the task or the enjoyment one expects to experience while one is engaged in the task. The work of Deci and Ryan has focused great attention on the importance of the intrinsic motivation for engagement in academic tasks (Deci & Ryan, 2002; Grolnick et al., 2002). To them, intrinsic motivation is highest when individuals are doing tasks that they enjoy (tasks that have intrinsic value) as well as when they are doing tasks that are personally meaningful (see next section: “Attainment Value”). Evidence is quite strong that interests and intrinsic value predict greater academic engagement and learning (Koller, Baumert & Schnabel, 2001).

Other educational psychologists distinguish between two types of interest or intrinsic value: individual and situational interest. Individual interest is a relatively stable evaluative orientation towards certain domains that one enjoys doing; situational interest is an emotional state aroused by specific features of an activity or a task. School engagement is increased by either of these forms of interest or enjoyment. For example, some educational psychologists are interested in individual differences in a trait-like characteristic that is often referred to as “the desire to learn” (Ainley, Hidi, & Berndorff, 2002; Gottfried, 1990; Harter, 1998; Schiefele, 2001). These researchers define this

enduring learning orientation in terms of three components: (1) preference for hard or challenging tasks, (2) learning that is driven by curiosity or interest, and (3) striving for competence and mastery. Empirical findings suggest that these three components are highly correlated, and that a high level of a desire to learn is related to a mastery-oriented coping style for dealing with academic failure, high academic achievement, both comprehension and deep-level learning, and the use of appropriate self-regulated learning strategies in academic tasks (Pintrich & Schrauben, 1992; Renninger, 2000; Renninger, Ewen & Lasher, 2002; Schiefele, 2001).

Situational interest is more transitory because it is based in the nature of the academic curriculum and materials themselves. Much research has focused on the characteristics of academic tasks that create interest (e.g., Chen, Darst, & Pangrazi, 2001; Hidi 2001). Among others, the following features of course work and academic texts arouse situational interest: personal relevance, both familiarity and novelty, high activity level, and comprehensibility (Hidi & Harackiewicz, 2000). These characteristics facilitate engagement as well as learning.

These findings suggest that it is important to do all we can to increase the *interest value* of school learning tasks if we want to optimally motivate our students to engage fully in the learning agenda of school. Several intervention studies have demonstrated that increasing the interest value of academic achievement tasks does lead to increases in school engagement and performance, particularly in the middle school years (NRC, 2004). Unfortunately, many middle school practices actually undermine intrinsic interest in learning and thus undermine this source of motivation for engagement in school (Jvonen et al., 2004; Maehr & Midgley, 1996).

Attainment and Utility Value. The term Attainment Value is used here to refer to the link between tasks and individuals' own identities. As they grow up, individuals develop an image of who they are and what they would like to be. This image is made up of many component parts

including (1) conceptions of one's personality and capabilities, (2) long range goals and plans, (3) schema regarding the proper roles of men and women in one's culture group, (4) instrumental and terminal values (Rokeach, 1973), (5) motivational sets, (6) ideal images of what one should be like; and (7) social scripts regarding proper behavior in a variety of situations. My colleagues and I conceptualize Attainment Value in terms of the needs and personal values that an activity fulfills. Those parts of an individual's self-image that are central or critical to self-definition should influence the value the individual attaches to various activities; these differential values, in turn, should influence the individual's desire to engage fully in school-based learning activities (Eccles, 1994; Graham & Taylor, 2002; Patrick, 1997; Roeser, Peck, & Nasir, 2006). For example, if doing well in school and being a good student is a central part of an individual's self-image, then that person should place higher value on investing time and energy in doing well in school than in other pursuits because doing well in school has high Attainment Value for him or her.

Utility Value is determined by how well a task fits into an individual's goals and plans or fulfills other basic psychological needs. For example, if a student plans to become an engineer then mastering arithmetic in elementary school and doing well in challenging mathematics and science courses in secondary school will have high Utility Value because it will allow her or him to take college track mathematics in secondary school and then get into college training programs in engineering. If not, then the value of doing the work necessary to succeed in these courses may be too low to motivate such effort.

What might influence the Attainment and Utility Values of doing well and being engaged in school? Connell and Wellborn (1991) proposed three basic human needs that should influence the Attainment Value of school: the needs for competence, relatedness and autonomy. Connell & Wellborn (1991) argued that people's motivation to engage in a situation is influenced by the extent

to which the task provides opportunities to experience autonomy, social relatedness, and a sense of competence. If schools and classrooms do not provide these opportunities, then individuals will not become engaged in school learning and will try to disengage by whatever means are available to them. In contrast, if classroom experiences provide opportunities for students to fulfill these basic needs then the Attainment Value of fully engaging in the learning agenda of school should be increased. Findings by Eccles and her colleagues have supported this prediction (Eccles et al., 1997).

The importance of competence needs, in particular, has received a great deal of attention in the achievement literature. For example, in her model of mastery or effectance motivation, Harter (1998) described the effects of both success and failure experiences on mastery motivation. She proposed that successful mastery attempts that (initially) are positively reinforced lead to the internalization of the reward system. They also enhance perceptions of competence and perceived internal control over outcomes, give the individual pleasure, and ultimately increase mastery motivation. In contrast, when mastery attempts fail, the need for approval by others persists, with a corresponding increase in external control beliefs, lower competence beliefs, higher anxiety in mastery situations, and ultimately, lower mastery motivation. This model is important because it includes the effects of both success and failure on subsequent motivational orientations, which I believe influence the Attainment Value of various types of activities. If an individual has had a history of his or her school mastery attempts being both successful and rewarded by key individuals, then the Attainment Value of school-based learning tasks that provide opportunities for mastery and competence development will be high. In contrast, if individuals fail at their mastery attempts in school and feel incompetent at school related tasks, then they are likely to lower the Attainment Value they attach to being academically competent, as well as their confidence in the ability to do well in school subjects. Research by several scholars supports the prediction that early school failure

predicts disengagement from school, which, in turn, increases the likelihood of dropping out (Roderick, 1993; Rumberger, 1987). Other researchers have documented the heightened impact of school failure experiences following the intermediate school and high school transitions (Alspaugh, 1998; Roderick, 1993; Roderick & Camburn, 1999).

Given this perspective and the results of this research, it is essential that teachers set up their instructional practices in ways that allow all children to experience success at their mastery attempts, particularly at critical school transitions when academic failure may precipitate a downward spiral of disengagement leading to school drop out. Researchers in the area of Achievement Goal Theory (e.g., Ames, 1992; Anderman, Austin & Johnson, 2002; Blumenfeld, 1992; Maehr & Midgley, 1996; Midgley, 2002; Pintrich, 2000; Pintrich & Schunk, 2003; Pintrich & Zusho, 2002) have explored the importance of mastery-oriented classrooms quite extensively. Achievement Goal Theory researchers hypothesize that school learning tasks vary along at least two important dimensions: (1) the extent to which mastery or improvement is stressed (i.e., a mastery focus); and (2) the extent to which doing better than others is stressed (i.e., a performance focus). They argue that the greater the focus on mastery instead of performance, the greater the likelihood that all students will feel competent and will have repeated experiences of mastery.

Maehr and Midgley (1996) conducted an extensive school intervention effort to test these ideas. They worked with a middle school for several years to help the teachers create new forms of evaluation and new learning opportunities that focused attention on mastery of new material and reduced focus on socially comparative grading systems based on one's relative performance compared to other students. The results were quite positive. Other work by Midgley and her colleagues has also shown that age-related declines in both the value students attach to doing their school work and in their confidence in their ability to master their school subjects are linked to



teachers' increasing stress on doing better than other students, rather working for one's own increased understanding and competence (e.g., Anderman, Maehr & Midgely, 1999; Midgley, Anderman, & Hicks, 1995).

Although less research has been done on the other two basic needs (i.e., social relatedness and autonomy), evidence is accumulating to support their importance for school engagement. Individuals are likely to enjoy being in contexts that provide opportunities for the fulfillment of these basic needs, and the activities that are central to such contexts are likely to take on high attainment and utility value. Several researchers, including Goodnow (1993) and Roeser (Roeser, Midgley & Urdan, 1996), have shown that feelings of belongingness in classrooms and schools, as well as a sense of being part of a supportive learning community, predict increased engagement and school learning (see also Birch & Ladd, 1996; Connell & Klem, 2000; Furrer & Skinner, 2003; NRC, 2004; Wentzel, 1996). Finally, one of the major benefits of both cooperative learning structures and Catholic schools is that they increase all students' sense of belonging in their classroom's and school's agenda (Stevens & Slavin, 1995; Slavin, 1995).

In contrast, experiences of racial, ethnic, religious, linguistic, and gender discrimination are likely to undermine minority and female students' sense of belonging at school. For example, Wong et al. (2003) showed that perceived experiences of racial discrimination predicted declines in school achievement. It seems likely that part of this relation reflects the negative impact of experiences of racial discrimination on students' feelings of social relatedness to both their teachers and the other students at school (i.e., their feelings of belonging at school). For example, Steele and his colleagues argued that students who believe that their teachers have low expectations for their academic performance will disidentify with school learning as a way of coping with experiences of racial and ethnic discrimination at school (e.g., Steele & Aronson, 1995). Qualitative studies of ethnic minority

youth in various schools also support the hypothesis that experiences of racial and ethnic discrimination undermine African American, Hispanic, and low achieving students' engagement in the learning activities at school through their impact of these students' sense of belonging at school (e.g., Suarez-Orozco & Suarez-Orozco, (2001).

Deci, Ryan and their colleagues have done most of the work on the importance of support for autonomy in classrooms for students' motivation to fully engage the learning agenda of the classroom. (Deci & Ryan , 2002; Grolnick et al, 2002). They argue that individuals need to feel personally responsible for their behavior and their goals. To the extent that teachers create opportunities for this to be the true, students are more motivated to do their school work and learn the material better. We have shown that declines in students' perceptions of the opportunities provided for autonomous decision making regarding learning behaviors mediate in part declines in students' engagement in school as they make a middle-years school transition (Midgley, & Feldlaufer, 1987).

My colleagues and I have become quite interested in another possible basic need: mattering. We believe that people need to feel like they are valuable contributors to their social groups and institutions. This need is likely to become especially salient during the early and middle adolescent years. Researchers interested in service learning also stress the importance of opportunities to make meaningful contributions to ones' school and community for maintaining the motivation to take responsibility for one's academic learning (Eccles & Templeton, 2002). One very impressive intervention study was done based on this need: the Coca Cola study (cited in Eccles & Templeton, 2002 and in Lehr et al., 2004). In this project, adolescents who were predicted by school personnel to become dropouts based on their current performance and engagement were assigned to give cross-age peer tutoring in reading to first graders. Those adolescents who had this experience over an extended period of time showed an increased commitment to their own academic performance as evidenced by

increases in their grades and high school graduation rates. Again, such opportunities are likely to be especially important during the secondary school years because adolescents are quite sensitive developmentally to increases in such opportunities (Eccles et al., 1993). Evidence from the field of service learning supports these hypotheses (see Eccles & Templeton, 2002).

Individual differences in school motivation are also likely to be linked to individual differences in self-schema and both personal and social goals and identities (Eccles, 1993; Patrick, 1997; Roeser et al., 2006; Wentzel, 1996). As noted above, these differences should be directly related to the perceived attainment and utility values of various activities. The work my colleagues and I have done on gender differences in high school math and science course enrollment demonstrates the importance of the perceived utility value of various course options. Using longitudinal methods, we have shown that gender differences in students' decisions to enroll in advanced mathematics are mediated primarily by gender differences in the value that the students attached to mathematics (Eccles, Adler, & Meece, 1984). More specifically, our findings indicate that young women are less likely than young men to enroll in advanced high school mathematics and physics courses, primarily because they feel that math and physical science are less important, less useful, and less enjoyable than do young men. Furthermore, and more importantly, young women think that advanced math and physics are less important and enjoyable than the many other advanced high school courses they could be taking instead. Interestingly, interventions based on making physics more interesting to females by using more human biological examples of physical principles have been quite successful at increasing females' engagement in physics classes (Hoffmann & Haeussler, 1995).

The work by Markus , Oyserman and their colleagues (Markus & Nurius, 1986; Oyserman, Gant, & Ager, 1995) also illustrates the importance of group and individual differences in “*possible*

*selves*” for students’ engagement in school. Oyserman and Markus (1990) found that individuals are more motivated to invest time and energy in mastering school learning materials if they included academic success in their future possible selves, and academic failure in their feared future possible selves. Oyserman extended this idea by looking at the extent to which African American adolescents included academic success in their view of what it means to a successful African American (Oyserman et al., 1995). Her survey studies have supported this hypothesis. Subsequently, Oyserman has conducted several interventions designed to increase the salience of academic achievement in both individuals’ possible selves and ethnic identity. For example, using a randomized treatment intervention design, Oyserman, Terry and Bybee (2002) provided a group of African American adolescents with a series of experiences designed to help them expand both their views of themselves in various future occupations and the means of obtaining these various occupational goals. These means included increased commitment to educational success. Those students who were part of the treatment reported greater bonding with school and greater concern with doing well in school than the controls. They also evidenced better school attendance.

Given the relation of both perceived importance and the utility value of mastering school-based learning materials to school performance, my colleagues and I, in our many hours of math classroom observations, were very surprised at how rarely we heard junior high school math teachers provide any explanation for why the students might want to do their school work other than to do well on the next test. In this work, we observed for 10 hours in each of 60 secondary school math classrooms coding every public dyadic teacher-student interaction. The modal number of times these teachers provided any explanation for the utility of doing the math work other than to do well on tests was zero. Observing students who did not enjoy doing math, I had to wonder what would provide them with sufficient motivation to answer “yes” to the question “Do I want to do this work?”

Clearly, most of these teachers provided little information to increase the probability of a “yes” answer. In addition, our observations suggested that many students were either bored or very confused, and thus quite emotionally distraught—emotions unlikely to create high perceived value for mathematics.

Perceived Cost. The value of a task also depends on a set of beliefs that can best be characterized as the cost of participating in the activity. Cost is influenced by many factors, such as anticipated anxiety, fear of failure, fear of the social consequences of success, such as being rejected by peers or anticipating racial or gender discrimination, or anticipating anger from one’s parents or other key people, as well as by the fear of decreases in one’s sense of self worth.

This conceptualization of cost is similar to the kinds of dynamics discussed by Covington in his Self Worth Theory. Covington (1992) defined the motive for self-worth as the desire to establish and maintain a positive self-image, or sense of self worth (see also Covington & Dray, 2002). Because children spend so much time in classrooms and are evaluated so frequently there, Covington argued that protecting one’s sense of academic competence is likely to be critical for maintaining a positive sense of self-worth. However, school evaluation, competition, and social comparison can make it difficult for some children to maintain the belief that they are competent academically. This dynamic is particularly true in the secondary school years. Covington (1992) outlined various strategies children develop to avoid appearing to lack ability, including procrastination, making excuses, avoiding challenging tasks, and not trying. The last two strategies are particularly interesting. Covington and Omelich (1979) referred to effort as a "double-edged sword" because, although trying is important for success (and is encouraged by both teachers and parents), if children try and fail, it is difficult to escape the conclusion that they lack ability. Therefore, if failure seems likely, some children will not try, precisely because trying and failing threatens their self-concepts of

ability in highly valued domains. Avoiding challenging tasks is a good way to avoid or minimize failure experiences. Thus, it is not surprising that such avoidance is used by even high achieving students who are failure avoidant. Rather than responding to a challenging task with greater effort, these students try to avoid the task altogether in order to maintain both their own sense of competence, and others' perceptions of their competence. Similarly, work by Newman and his colleagues demonstrates that students may be reluctant to ask for help in classrooms because they think that this will make them appear to be stupid (Newman, 1994; Newman & Golden, 1990; Newman & Schwager, 1995).

Cost can also be conceptualized in terms of the loss of time and energy for other activities. People have limited time and energy. They can not do everything they would like. They must choose among activities. To the extent that one loses time for Activity B by engaging in Activity A, and to the extent that Activity B is high in one's hierarchy of importance, then the subjective cost of engaging in A increases. Alternatively, even if the subjective value of A is high, the value of engaging in A will be reduced, to the extent that the subjective value of B is higher and to the extent that engaging in A jeopardizes the probability of successfully engaging in B. Thus, cost refers to what the individual has to give up to do a task (e.g., do I do my math homework or call my friend?), as well as the anticipated effort one will need to put into task completion. Is working this hard to get an A in math worth it? My colleagues and I have emphasized that cost is especially important to choice and that socio-cultural processes linked to social identity formation and cultural socialization should have a big influence on the perceived cost of the various activities competing for young people's time and energy. (e.g., Eccles, 1994). Schools need to provide young people with genuine reasons for attaching higher subjective task value to engaging in school work than in engaging in the variety of tasks associated with other aspects of their daily lives. This kind of cost may be

particularly high for some minority and/or poor youth who feel obligated to help support their families both financially and physically, for young women who are either pregnant or young mothers, and for youth who are more attached to moving into the labor market quickly than to going on to college (Rumberger, 1987, 1995; Rumberger & Thomas, 2000).

### **Changes in Academic Motivation and Achievement**

Evidence from several sources suggests that early adolescence is a time of major changes in many of the motivational constructs just discussed. For example, there are declines during early adolescence (ages 11-14) in: interest and feelings of belonging in school (Gottfried et al., 2001; Connell & Klem, 2000; Ryan & Patrick, 2001); intrinsic motivation (Gottfried et al., 2001; Harter, 1982); valuing of particular subjects such as math (Fredricks & Eccles, 2002; Wigfield et al., 1991); engagement in school (Connell & Klem, 2000; NRC, 2004; Skinner et al., 1998); self-concepts/self-perceptions (Dweck, 2002; Eccles, Midgley, & Adler, 1984; Eccles et al., 1989; Harter, 1982; Jacobs et al., 2002; Simmons, et al., 1979; Wigfield et al., 1991), confidence in one's intellectual abilities, especially following failure (Dweck, 2002; Parsons & Ruble, 1977), mastery goals (Anderman & Anderman, 1999; Meece & Miller, 2001); and in the belief that one has internal control over one's academic learning and performance (Skinner et al., 1998). As discussed earlier, such declines are very likely to lead to disengagement from school during the middle school years, which in turn can lead to high school dropout.

There are also increases during early adolescence in school-related apathy (Brophy, 2004; National Research Council, 2004), test anxiety (Hill & Sarason, 1966; Meece, Wigfield, & Eccles, 1990) and general academic worries (Schulenberg, Asp & Petersen, 1984; McQuire, Mitic, & Newman, 1987), as well as in a learned helpless responses to failure (Dweck, 2002; Rholes, Blackwell, Jordan, & Walters, 1980), a focus on self-evaluation and performance goals coupled with

decreases in task mastery and mastery-focused achievement goals (Anderman & Anderman, 1999; Dweck, 2002; Nicholls, 1980), and a belief that variations in academic performance reflect innate cognitive differences rather than differences in experience and learning opportunities (Dweck, 2002). The increase in a belief in innate differences in academic ability (coupled with the belief that failure is likely to persist, that one has little internal control over one's learning, and that one has low academic ability) can have quite negative consequences for low performing students, leading them to lose confidence in their own ability to master challenging academic material (Dweck, 2002; Skinner et al., 1998) and then to lower the value they attach to school work and their engagement in school (Bandura, 1997; Eccles et al., 1993; Jacobs et al., 2002; Mac Iver, Stipek, and Daniels, 1991; Skinner et al., 1998; Wigfield, 1994), perhaps as a means of protecting their self-esteem (Covington, 1992; Harter, 1990; Wigfield et al., 2006). This is a self-defeating and pernicious, downward spiral that teachers must do everything in their power to help students avoid.

Finally, several researchers, including Simmons and Blyth (1987), Eccles and her colleagues (see Eccles et al., 1993), Alspaugh (1998), and Roderick (1993), have found marked declines in some early adolescents' school grades as they move into junior high school. Furthermore, these declines in achievement predict declines in confidence in one's expectations for success, declines in the value one attaches to school, and subsequent school failure, school disengagement and school dropout (Alspaugh, 1998; Fine, 1991; Roderick, 1993; Wigfield et al, 2006).

In sum, these studies suggest a negative pattern of changes in school motivation for a large number of young adolescents—a negative pattern quite likely to lead to further school disengagement and dropping out during the high school years. These changes are also problematic because scholastic anxiety and stress, feelings of loneliness and alienation, and feelings of low academic competence are known to be risk factors for the psychological well being of early adolescents as they make the



transition to a new school environment and need to contend with new social and academic demands (e.g., Harter, Whitesell & Kowalski, 1992; Lord, Eccles, & McCarthy, 1994; Kennedy, 1993). While these changes do not necessarily indicate a negative developmental trajectory for all adolescents, such changes do suggest that substantial numbers of young people are at risk for poor psychological functioning, as well as continued school failure and dropping out. These changes are especially difficult and undermining for those students who were most at risk for secondary school disengagement before they entered the adolescent years, due to emotional or academic problems (Lord et al., 1994).

### **Why are these negative school-related motivational changes so common?**

A variety of explanations has been offered for these negative changes. For example, Simmons and her colleagues suggested that the concurrent timing of the junior high school transition and pubertal development accounts for the declines in the school-related measures and (lowered?) self-esteem among girls (Simmons & Blyth, 1987). Drawing upon cumulative stress theory, they suggested that declines in motivation and mental health indicators occur because so many young adolescent girls must cope with at least 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 clarifies the combined effects of age and school transition operating in most developmental studies of this age period. These researchers found clear evidence of greater negative change among adolescent females making the junior high school transition than among adolescent females remaining in the same school setting. They also noted major school building level differences between the seventh grade in K-8 school systems and the

seventh grade in junior high schools—differences that likely make experiences in junior high schools much more stressful for early adolescents than the experiences of their peers in K-8 schools.

To unconfound the effects of age versus school experience on the declines in school motivation during early adolescence, Eccles, Lord, & Midgley (1991) compared the motivation and well-being of 8<sup>th</sup> graders in K-8 schools with 8<sup>th</sup> graders in either the classic middle school or junior high school grade configuration, using the Nels 88 data set. Like Simmons and Blyth (1987), they found that 8<sup>th</sup> graders (both males and females) in the K-8 school system were more engaged and motivated for school than the 8<sup>th</sup> graders in either of the other two grade configurations, who did not differ from each other. Furthermore, they compared 8<sup>th</sup> grade teachers in these three different types of grade configurations and found that the 8<sup>th</sup> grade teachers in the K-8 schools were also more engaged in their teaching and more enthusiastic about their students than the teachers in either of the other two school grade configurations. Together these two studies, along with other similar studies and reports (Darling-Hammond, 1997; Juvonen et al., 2004; Felner et al., 1997; Lipsitz et al., 1997; Mac Iver, Young, & Washburn, 2002; Maehr & Midgley, 1996; Wentzel, 2002) suggest that the nature of the school transition in some districts, rather than pubertal processes per se, is responsible for average level declines in the students' school related motivation during the early adolescent period. In 1989, the Carnegie Corporation issued the report *Turning Points* that outlined exactly this position and made a set of recommendations for change in the nature of education for early adolescents. These recommendations are discussed later in this report.

Within the educational research community, my colleagues and I have made one of the strongest arguments for the perspective that changes in the nature of the learning environment associated with the junior high or middle school transition provide a plausible explanation for the declines in the school-related motivation experienced by many youth during their early adolescent

years (Eccles et al., 1984; Eccles & Midgley, 1989; see both Fine, 1991 and Lee & Smith, 2001 for a similar argument for the high school transition). Drawing upon person-environment fit theory (see Hunt, 1975), Eccles and Midgley (1989) proposed that the motivational and behavioral declines evident during early adolescence could result from the fact that junior high schools are not providing appropriate educational and social environments for early adolescents. According to person-environment fit 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. 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 academic and social environments in the typical junior high or middle school do not fit with the psychological needs of adolescents, then person-environment fit theory predicts a decline in motivation, interest, performance, and behavior as adolescents move into and through this environment. It is critical to note that not every transition is bad at this age. Instead, it is the specific nature of the transition that matters. To test this hypothesis, we reviewed the existing literature on the nature of classrooms in elementary schools versus junior high schools; we then evaluated classrooms in different junior high schools in order to determine which types of classrooms produced negative motivational changes and for whom. The findings are summarized in the next section.

### **Systematic Changes in School Environments with the Transition Into Junior High or Middle School**

As noted above, my colleagues and I believe that there are developmentally inappropriate changes in a cluster of classroom organizational, instructional, and climate variables (including task structure, task complexity, grouping practices, evaluation techniques, motivational strategies, locus of responsibility for learning, and quality of teacher-student and student-student relationships) that

contribute to the negative change in some students' motivation and achievement-related beliefs found to coincide with the transition into many junior high and middle schools. Although we were amazed to find so little relevant research when we began our work, the emerging evidence now supports our hypothesis. (e.g. Anderman, Maehr, & Midgley, 1999; Harter et al., 1992; Midgley, Anderman, & Hicks, 1995; Midgley & Edelin, 1998; Roeser et al., 1994b; Roeser, Urdan, & Midgley, 1993; United Way, 2008; Wentzel, 2002).

Until quite recently, many of the existing comparative studies focused on school-level characteristics such as school size, degree of departmentalization, extent of bureaucratization, etc., and not on variables more proximally related to students' beliefs, attitudes and behaviors. Although differences on these macro-characteristics are likely to have important effects on teacher beliefs and practices and consequently, on adolescent motivation, well-being and achievement, these links have only recently begun to be studied explicitly. Most studies of classroom environments have included only one grade level and have related between-classroom differences in the environment to between-classroom differences in student outcomes, particularly scores on achievement tests. Little research has looked at the ways in which classroom environments change in systematic ways across grade level or school type. Even fewer have tried to relate these systematic differences in classroom environments to changes in students' motivation as they move across grade levels and school types.

Looking across the various relevant studies, six patterns emerge with a fair degree of consistency.

*First*, many intermediate school classrooms, as compared to elementary school classrooms, evidence greater emphasis on teacher control and discipline, and provide fewer opportunities for student decision-making, choice, and self-management (e.g., Brophy & Evertson, 1978; Deci & Ryan, 1987; Midgley, Feldlaufer, & Eccles, 1988; Moos, 1979). For example, Brophy, Evertson,

and their colleagues found consistent evidence that junior high school teachers spend more time maintaining order and less time actually teaching than elementary school teachers (Brophy & Evertson, 1978). In our own work, sixth grade elementary school math teachers reported less concern with controlling and disciplining their students than these same students' seventh grade junior high school math teachers reported one year later (Midgley et al., 1988).

Similar differences emerge on indicators of student opportunity to participate in decision-making regarding their own learning. For example, Ward and his colleagues found that upper elementary school students are given more opportunities to take responsibility for various aspects of their schoolwork than seventh grade students in a traditional junior high school (Ward et al, 1982). In our work, both seventh 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 sixth grade elementary school teachers one year earlier. In addition, using a measure developed by Lee, Statuo, and Kedar-Voivodes (1983) 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 (1987) found a greater discrepancy 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. The fit between the adolescents' desire for autonomy and their perception of the extent to which their classroom afforded them opportunities to engage in autonomous behavior decreased over the junior high school transition. Such discrepancies are likely to be particularly problematic for the early adolescent given that a key developmental task of this period is to establish a sense of autonomy and personal efficacy, and yet these young people are not in environments that afford such opportunities. One can imagine the adolescents' frustration with such an environment, frustration that can adversely impact both their motivation for academic engagement and achievement, and their

overall psychological well being. Mac Iver and Reuman (1988) documented this latter effect in our sample: Those students who experienced the greatest drop in the fit between their desire for autonomy in their classroom and the actual opportunities for autonomy, also showed the largest declines in interest in math and the largest increases in several indicators of disengagement.

*Second*, intermediate school classrooms, as compared to elementary school classrooms, evidence less personal and positive teacher/student relationships (Eccles & Midgley, 1989; Connell & Klem, 2000; Ryan & Patrick, 2001). 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 one year earlier in the last year of elementary school (Feldlaufer, Midgley, & Eccles, 1988). In addition, the seventh grade teachers in this study also reported that they trusted the students less than did these students' sixth grade teachers (Midgley et al., 1989). So, at a time period when most early adolescents are confronted with an uncertainty about themselves that derives from the often daunting tasks of establishing a sense of coherent personal identity and negotiating newfound social roles in the face of a myriad of changes, they are met with distrust by the very people who could provide support for them during the negotiation of these tasks. It is no wonder that a large proportion of early adolescents come to feel alienated from adults and institutions at this time period. The importance of feeling emotionally connected to the adults in one's school at this particular age period has been stressed by many scholars (e.g, Klem et al., 2003; Goodnow, 1993; Juvonen et al., 2004; Lehr et al., 2004; NRC, 2004; Roderick, 1993). This is the time when young people are looking to adults outside the home for guidance in their development. For many youth in the United States, teachers are the most stable group of non-familial adults in their lives. School structures, such as large, impersonal junior high schools, that reduce the likelihood of close teacher-students relationships, are therefore quite problematic at this particular age.

*Third*, the shift to junior high and middle school is often associated with an increase in practices such as whole class task organization, between-classroom ability grouping, and public evaluation of the correctness of work (see Eccles & Midgley, 1989; Maehr & Midgley, 1996). For example, in the study by Ward and his colleagues, whole-group instruction was the norm in the seventh grade, small-group instruction was rare, and individualized instruction was not observed at all. In contrast, the sixth grade teachers mixed whole- and small-group instruction within and across subject areas (Rounds & Osaki, 1982). Similar shifts towards 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 (Feldlaufer, et al. 1988). In addition, several reports have documented the increased use of between-class ability grouping beginning at junior high school (e.g., Oakes, 2005).

Changes such as these are likely to increase social comparison, concerns about evaluation, and competitiveness (e.g., Eccles et al., 1984; Marshall & Weinstein, 1984; Rosenholtz & Simpson, 1984). 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. In fact, work by Midgley, Maehr and their colleagues indicates that both teachers and students in middle schools report more emphasis placed on relative ability, competition, and extrinsic rewards in their schools than teachers and students in elementary school settings (Midgley, 2002; Roeser et al., 1994). Thus, at a time when young people are, by the nature of this developmental period, acutely sensitive to their competencies relative to others, their social environments highlight these comparisons. For many, such competitive environments can lead

to grade declines and increasing anxiety about one's competence, and perhaps for some, may help to crystallize a downward spiral toward eventually dropping out of school.

*Fourth*, many junior high and middle school teachers use a higher standard in judging students' competence and in grading their performance than do elementary school teachers (Eccles & Midgley, 1989; Alspaugh, 1991; Roderick, 1993). 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. To assess student competency and evaluate student performance, there is evidence that junior high middle school teachers use stricter and more social comparison-based standards than elementary school teachers, leading to a drop in grades for many early adolescents as they make the junior high school transition. For example, Finger and Silverman (1966) 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 (1987) found a greater drop in grades between sixth and seventh grade for adolescents making the junior high school transition than for adolescents who remained in K-8 schools. Interestingly, the decline in grades is 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 (Kavrell & Petersen, 1984). Imagine what this decline in grades might do to young adolescents' self-confidence, especially in light of the evidence suggesting that the material may be less intellectually challenging than the work in the elementary school grades. Roderick (1993) documented the devastating impact of a drop in grades following the middle school transition. This drop was a major predictor of subsequently dropping out. Alspaugh (1998) showed that the impact of this drop in grades is even worse if the student experiences a similar drop in grades following a second transition into high



school. Finally, Roderick and Camburn (1999) have shown a similarly devastating impact of a drop in grades following the transition to high school. These results clearly point to the importance of classroom experiences that prevent a decline in grades following school transitions.

Finally, many intermediate school teachers feel less effective as teachers, especially for low ability students than elementary teachers and teachers in K-8 schools. This was one of the largest differences we found between our sixth and seventh grade math teachers. The seventh grade teachers in traditional junior high schools reported substantially less confidence in their teaching efficacy than sixth grade elementary school teachers in the same school districts (Midgley et al., 1989b). This was true in spite of the fact that the seventh grade math teachers were more likely to be math specialists than the sixth grade math teachers. Here again, at a time when early adolescents are working to establish a sense of personal competence and efficacy and are in need of adult role models for this task, significant adults in their lives do not, themselves, feel efficacious in their roles.

Furthermore, we know that teachers' feelings of low efficacy adversely affect both the academic motivation and mental health of adolescents not only by means of negative social role modeling, but also in terms of the environments that these teachers then provide for their students. As such, the environments created by teachers who do not feel efficacious may likely reflect an accommodation to the teachers' own insecurities and consequent needs for excessive structure and control—needs are likely to be in direct contrast to the developmental needs of the adolescents themselves.

### **The Adolescent in Context: A Developmental Mismatch**

Changes such as those noted above are likely to have a negative effect on students' motivational orientation toward school at *any* grade level; but given what is known about psychological development during this stage of life, several scholars now believe these types of

school environment changes are *particularly* harmful at early adolescence,. Evidence from a variety of sources suggests that 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 sexuality, and capacity for abstract cognitive activity (see Simmons & Blyth, 1987). For example, Simmons & Blyth (1987) argued that adolescents need a reasonably safe, as well as an intellectually challenging, environment to adapt to these shifts—an environment that provides a "zone of comfort", as well as challenging new opportunities for growth. In light of these needs, the environmental changes often associated with school transitions in grades 6-9 seem especially harmful in that they emphasize competition, social comparison, and ability self-assessment at a time of heightened self-focus; they decrease decision-making and choice, at a time when the desire for control is growing; and they disrupt social networks at a time when adolescents are especially concerned with peer relationships and may be in special need of close adult relationships outside of the home.

My colleagues and I believe the nature of these environmental changes, coupled with the normal course of individual development, results in a developmental mismatch so that the "fit" between the early adolescent and the classroom environment is particularly poor, increasing the risk of negative motivational and psychological outcomes, especially for adolescents who are having difficulty succeeding in school academically. The few longitudinal studies that have followed early adolescents through these school transitions support these hypotheses. Many early adolescent children move from more supportive elementary school classrooms into less developmentally appropriate secondary school classrooms and, as a result, experience declines in their school motivation and engagement for the reasons discussed earlier (see Eccles et al., 1993, 1998; Juvonen et al., 2004; United Way 2008; Wigfield et al. 2006). As we discuss in more detail later, these

declines have long term consequences for later educational success. For many youth, these declines can crystallize a downward trajectory that leads to further school withdrawal, failure and dropping out. Furthermore, the findings reported by Simmons and Blyth (1987) suggest that such declines are much less likely to occur in K-8 school structures. In their study, those adolescents who passed through 7<sup>th</sup> and 8<sup>th</sup> grade in a K-8 school showed neither the declines in self-esteem and academic engagement and achievement commonly reported for this age group, nor similar declines when they transitioned to a high school. In contrast, those youth who made the junior high school transition showed further declines in well-being and academic engagement when they made a second transition into high school. These results suggest that a transition into a developmentally inappropriate middle grades situation puts one at risk for further problems during the high school years.

It is important to step back and consider briefly why some intermediate school classrooms might have these characteristics. Several sources have suggested that these characteristics result, in part, from the size and bureaucratic nature of the intermediate schools as an institution (e.g., Barker & Gump, 1964; Carnegie Council on Adolescent Development, 1989; Eccles et al., 1993; Juvonen et al., 2004; NRC, 2004; Lehr et al., 2004; Roderick, 1993; Simmons & Blyth, 1987). For example, it is likely that such school characteristics as large size, minimal connections to the community, and a rigidly hierarchical 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 25-30 different students each hour of the day. Similarly, it is hard for teachers to feel efficacious about their ability to monitor and help 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.

The 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 both presumed experts and the mass media (see Miller et al., 1990; Offer, Ostrov, & Howard, 1981). Such stereotypes characterize adolescence as a period of “storm and stress”. The adolescent is often portrayed as impulsive, out of control, confused, self-absorbed, angst-ridden, rebellious, violent, involved in drugs, alcohol and unremitting sex, and alienated. Due to these characterizations, the popular view that adolescents need to be tightly controlled until they ultimately “snap out of it” and settle into their adult roles is widespread in this culture. Interestingly, rarely does the media portray the potential negative roles of the social environment often plays in creating a world of alienation for some adolescents. There is also limited discussion in the media of the ways in which the adults in young adolescents' lives could help and support them through this life passage, or ways in which adults could give adolescents socially responsible tasks to engage in so as to exercise their need for establishing adult roles. Finally, there is relatively little attention in the media, or elsewhere, to the many positive things done by early adolescents in their communities and schools. Such coverage is desperately needed to counter-balance the prevalence of sensational reports of adolescents' problem behaviors.

**Long-Term Effects of the Junior High School Transitions: What does the middle grades' transition have to do with high school completion versus dropping out?**

In the previous section, I outlined the ways in which intermediate school transitions can influence early adolescent development in ways that undermine their motivation for school. In this section, I focus on a related question. What are the implications for high school completion of experiences at school during the early adolescent years? Do the kinds of declines in school engagement discussed earlier predict high school drop out and/or completion? The answer is ‘yes’;

however, not all adolescents are adversely affected by their school experiences during the middle years. Some find their experiences in grades 6-9 in either junior high schools or middle schools to provide a positive challenge; these students respond with healthy developmental changes and continued engagement in schools. In contrast, others find their experiences in these years quite difficult and respond by disengaging from their school's academic agenda, engaging in a variety of problem behaviors that conflict with school engagement and success, and then by dropping out of secondary school. For example, we used our longitudinal data to examine the association of the adjustment to junior high school with indicators of school success later in high school (Eccles, Lord, Roeser, Barber, & Jozefowicz, 1997; see also Lord, Eccles, & McCarthy, 1994). First, we clustered adolescents based on the change in their self-esteem over the junior high school transition (that is, from the end of the sixth grade to early in the seventh grade) into three groups: those whose self-esteem increased over this transition ("Increasers"); those whose self-esteem declined ("Decliners"); and those whose self-esteem remained the same ("No Change"). We then compared how these three groups fared through the end of high school.

Before summarizing our findings, it is important to note some of the other differences and non-differences between these three groups during their early adolescence. First, these three groups did not differ in their sixth grade self-esteem; that is, the Decliners did not start out with lower self-esteem than the Increasers. Second, the three groups did not differ in the academic achievement prior to the transition. Third, the three groups *did* differ in their sixth grade reports of anxiety and self-consciousness with the Decliners reporting significantly higher levels of both of these characteristics than either the Increaser or the No Change groups. Thus, these groups were both similar and different prior to the transition. By the end of the seventh grade, however, they differed in new ways: The Decliners now had lower self-esteem than the other two groups. The Decliners also reported higher

levels of depression and worry than the other two groups, as well as higher rates of using both drugs and alcohol. These differences persisted all the way through high school: at the end of their twelfth grade school year, the Decliners still had significantly lower self-esteem than the other two groups. They also reported higher levels of depression and both drug and alcohol use. Finally and most importantly for this paper, the males were also significantly more likely to have dropped out of high school.

As noted earlier, other scholars have found similar evidence of long-term negative effects associated with problems arising during the intermediate school transition. For example, several scholars have found that declines in courses' grades at this transitional point are major predictors of dropping out of high school (e.g., Roderick, 1993). Several lines of work also suggest that such long term effects are particularly likely for at-risk adolescents—adolescents who are already having academic difficulties, adolescents who are already becoming disengaged from school, adolescents who place little value on education for a variety of different reasons, and adolescents who experience personal assaults such as racial discrimination and harassment, and both sexual and physical abuse.

Additionally, evidence from several new reports on the high school transition suggest that the negative impacts of intermediate school experiences are often replicated and amplified by similar negative experiences following the high school transition (Jackson & Davis, 2000; Lee & Smith, 2001; NRC/IOM, 2004; Wehlage, et al., 1989). For example, high schools are typically even larger and more bureaucratic than junior high schools and middle schools, as well as being more likely to track and sort students into inequitable educational experiences. Lee and Smith (2001) provided numerous examples of how the sense of community among teachers and students is undermined by the size and bureaucratic structure of most high schools. There is little opportunity for students and teachers to get to know each other, and likely, as a consequence, there is distrust between them and

little attachment to a common set of goals and values. There is also little opportunity for the students to form mentor-like relationships with a nonfamilial adult, and little effort is made to make instruction relevant to the students. Such environments are likely to further undermine the motivation and involvement of many students, especially those not doing particularly well academically, those not enrolled in the favored classes, and those who are alienated from the values of the adults in the high school. These hypotheses are just now being tested.

### **Summary**

In this section, I summarized the evidence related to the impact of intermediate level school transitions on development. As one would expect, given what we now know about the ecological nature of the junior high and middle school transition, many early adolescents, particularly the low achievers and the highly anxious, experience great difficulty with this transition. In many ways, this transition can be characterized as a developmentally regressive shift in one's school context. Consistent with the stage-environment fit perspective, such a shift has negative consequences for many youths' school engagement and performance. Also consistent with the stage-environment fit perspective, there are now an increasing number of intervention studies showing that the junior high or middle school transition does not have to yield negative consequences for vulnerable youth. Middle grades educational institutions can be designed in a developmentally progressive manner, and when they are, the majority of early adolescents gain from this school transition.

### **School Reform Efforts**

As noted earlier, in 1989 the Carnegie Corporation issued the report *Turning Points*, calling for the reform of education for early adolescents. Based in part on notions linked to stage-

environment fit, as well as linked to the needs of early adolescent children, they suggested that the middle grades should have the following characteristics:

- Create small learning communities that will allow close relationships to emerge between teachers and students
- Teach a core academic program to everyone that includes opportunities for service
- Ensure success for all by eliminating tracking, using cooperative learning, providing flexible scheduling and adequate resources to meet the learning needs of all students
- Empower teachers and administrators to take control of and responsibility for their schools
- Staff schools with teachers who are trained to teach early adolescents
- Foster health and fitness
- Re-engage families
- Connect schools with communities

Similar recommendations have been offered by several other scholars including Connell and his colleagues at the Institute for Research and Reform in Education (Connell, 2003), Roderick (1993), Juvonen et al. (2004), Lehr et al. (2004), as well as the many professionals interested in the “Middle School Philosophy” (see Felner et al., 1997; Jackson & Davis, 2000).

An increasing number of scholars and student advocates have argued for a return to the K-8 format because it seems to create more developmentally suitable environments for the early adolescent years (e.g., Juvonen et al. 2004; Simmons & Blyth, 1987). The importance of small schools or schools within schools or small learning communities has been stressed in many reform proposals, along with the need to provide rigorous, challenging, and high quality instruction. Small learning communities are likely to be particularly important during this developmental period because they support the emergence of strong teacher-student relationships that will allow students some autonomy within a very tight support network. These characteristics should support stronger



engagement and identification with the school institution. When engagement is accompanied by high quality instruction then academic failure should be preventable.

Not surprisingly, the Carnegie Corporation report stimulated a major reassessment of schooling for early adolescents throughout the country. The results have been disappointing. Many districts changed from a junior high school format to a middle school format based on the fact that middle school philosophy includes many of the components outlined in the Carnegie Corporation report. Unfortunately, many of these changes failed to produce truly successful middle schools. Often the new middle schools looked a lot like the old junior high schools except for the fact that they contained grades 6-8 rather than grades 7-9 (Jackson & Davis, 2000; Juvonen et al., 2004). Thus, they simply created the same type of transitional effects but this time between the fifth and sixth grades.

In 2000, Jackson and Davis (2000) summarized the findings of these many middle school reform efforts. They concluded that the following middle grade school characteristics support both learning and positive youth development: (1) a curriculum grounded in rigorous academic standards and current knowledge about how students learn best and is relevant to the concerns of adolescents; (2) instructional methods designed to prepare all students to achieve at the highest standards; (3) organizational structures that support a climate of intellectual development and a caring community with shared educational goals; (4) staff who are trained experts at teaching young adolescents; (5) on-going professional development opportunities for the staff; (6) democratic governance that involves both the adults and the adolescents; (7) extensive involvement of parents and the community; and (8) high levels of safety and practices that support good health.

Similar conclusions have been reached by Juvonen and her colleagues (Juvonen et al., 2004), Lehr et al. (2004), the National Research Council (NRC/IOM, 2004), and the United Way (2008). Juvonen et al. (2004) also argued that K-8 structures might be more successful at implementing the

types of classroom characteristics and building level opportunities most supportive of continued academic engagement and positive youth development. Together, these recommendations fit very nicely with the stage-environment fit perspective outlined earlier in this report. They are consistent with both the developmental needs of early adolescence and what we know about high quality instruction.

Next I will discuss a few of the middle grades school reform and intervention programs that exemplify these characteristics. All but one of these programs were included in either the report by Juvonen et al. (2004) or the report by Lehr et al. (2004). All of the programs stress the importance of physically and psychologically safe environments, strong student-teacher relationships, small learning communities, and rigorous curricula and instruction that encourage active learning, coupled with both greater support for the teachers and high expectations for learning for all students, so that all students can master the material and do well. Some also stress strong connections with families and communities. Evaluations of each of these programs indicate that they can increase both achievement levels and school engagement during the early adolescent years.

Juvonen et al. (2004) focused on whole school reform efforts. They highlighted the following six comprehensive school reform programs:

- Different Ways of Knowing ([www.dwoknet.galef.org](http://www.dwoknet.galef.org))
- Turning Points Transforming Middle Schools ([www.turningpts.org](http://www.turningpts.org))
- Making Middle Grades Work  
([www.sreb.org/programs/MiddleGrades/MiddleGradesindex.asp](http://www.sreb.org/programs/MiddleGrades/MiddleGradesindex.asp))
- Middle Start ([www.middlestart.org](http://www.middlestart.org))
- The Talent Development Middle School Model ([www.csos.jhu.edu/tdms](http://www.csos.jhu.edu/tdms))
- AIM at Middle Grades Results ([www.takingaim.org](http://www.takingaim.org))

Lehr et al. (2004) focused on prevention programs that were specifically designed to reduce school dropout. Several of these programs were implemented within middle grade schools. These include:

- Achievement for Latinos Through Academic Success (ALAS: contact Katherine Larson, [larson@education.ucsb.edu](mailto:larson@education.ucsb.edu))
- Check & Connect ([ici.umn.edu/checkandconnect](http://ici.umn.edu/checkandconnect))
- Coca-Cola Valued Youth Program (CCVYP, [www.idra.org/CCVYP/default.htm#vyp](http://www.idra.org/CCVYP/default.htm#vyp))
- Project COFFEE ([www.oxps.org/coffee/index.html](http://www.oxps.org/coffee/index.html))
- School Transitional Environment Project (STEP: contact R. D. Felner, [r.felner@louisville.edu](mailto:r.felner@louisville.edu))
- Teen Outreach Program ([www.cornerstone.to](http://www.cornerstone.to))

Lehr et al. also highlighted several programs that were targeted at high school students including Career Academies ([www.cde.ca.gov/ci/gs/hs/cpagen.asp](http://www.cde.ca.gov/ci/gs/hs/cpagen.asp)), Interpersonal Relationships/Personal Growth Class ([www.son.washington.edu/departments/pch/ry](http://www.son.washington.edu/departments/pch/ry)), and Support Center for Adolescent Mothers (contact R. Solomon, [ricksol@med.umich.edu](mailto:ricksol@med.umich.edu)).

I Finally, because it fits so well with a stage-environment perspective, it should be mentioned that the CCVY program took unique advantage of early adolescents' desire to be make a difference in their community. It offered 7<sup>th</sup>-12<sup>th</sup> grade students considered to be at risk for dropping out of school an opportunity to tutor elementary school students who were also identified as being at risk for academic problems. The tutors were provided with training and support by teacher coordinators. Such a program is unique in its attention to providing early adolescent youth with a meaningful and authentic opportunity to "matter" in their school community. By allowing them to tutor younger children, the program also provided academically challenged youth with an opportunity to feel good about their academic skills and their ability to help other children do well in school. Finally, it

provided an unobtrusive and respectful means for the tutors' teachers to become both mentors and protectors.

This section concludes with a brief description of one more whole school reform initiative that was not reviewed in Juvonen, et al.: *First Things First*, created by the Institute for Research and Reform in Education (IRRE). Like the reforms listed above, this initiative entails three basic strategies: the creation of small learning communities, the creation of strong connections between family and school, and the provision of high quality instruction. These strategies were selected because they facilitate the following four experiences for students: (1) "continuity of care" and strong student-teacher relationships; (2) "flexible scheduling that allows for additional instructional time and attention to individual learning needs"; (3) "high, clear and fair standards for academics and conduct"; and (4) exposure to "enriched and diverse learning opportunities". To accomplish these goals, IRRE works with districts to provide the following three experiences for the teachers and staff: (1) "equip, empower, and expect staff to implement effective instructional practices"; (2) flexibility to redirect resources to meet emerging needs; and (3) "ensuring collective responsibility" (all quotes are from pages 6 and 7 of IRRE, 2004). All three of these features require the districts to put together teams of teachers that work with the same students over time and across school years. These teams are provided with common planning time and with remedial curricular materials that can be used to help students succeed. The teams are also provided with resources for their own continued development as high quality teachers and mentors. All students are provided with a family advocate who works with 15-20 students and their families over time to help the students succeed. This reform has been implemented in many school districts across the country and has been carefully evaluated in the Kansas City, Kansas school district. The results of this evaluation are quite positive for both the middle and senior high school grades. The program both reduces high school drop out and increases

academic performance, as well as closing the gap in academic performance between white and black students.

## Summary

In this paper, I have woven together three major topics and themes. In the first section, I provided a general overview of social-cognitive theories of academic motivation and pointed out how one can apply these theories to an understanding of school disengagement in the United States. I argued that many students disengage from the academic agenda of American schools because they either do not feel that they can succeed in these institutions or because they come to place little value or even negative value on being at school. I pointed out the many ways in which experiences in and out of schools can undermine students' confidence in their ability to master academic school tasks—the many ways in which schools create failure experiences and, thus foster a sense of incompetence in many students. These ways include: teachers providing strong cues that they have low expectations for particular students' ability to do well, and the failure to provide strong supports for all children's learning due to poorly trained teachers, or to inadequate resources and materials, or to disorganization and lack of focus or clarity of purpose, or to poorly designed and implemented pedagogy, or to rigid bureaucratic structures that make it impossible to provide the kinds of experiences children need to master the material, or to lack of funding.

Similarly, I pointed out the many ways in which experiences in and out of schools undermine the value students attach to attending and being engaged in school. Experiences of academic failure are just one such influence. Experiences of being bullied, discriminated against, and disrespected can also undermine the value of school. So too can experiences of being academically controlled and discounted, being exposed to boring and meaningless curriculum, and being hassled by school personnel or other students. Finally, so too can other life demands and priorities.

In the second section, I argued that many of the developmental declines we see during the early adolescent years are more a consequence of the nature of the school transitions we have

structured for them than any fundamental aspects of adolescent development itself. Furthermore, I argued that the pathway to high school dropout is often crystallized for youth at risk for school disengagement as a result of experiences encountered during transition to typical junior high and middle schools. I stressed that this is a critical juncture in many students' school careers—a juncture that can either make or break students' engagement in school.

In the final section, I argued that we can design middle school contexts that do not produce this type of negative crystallization, and, in fact, protect against such crystallization. Such contexts include opportunities for the following types of experiences:

- Strong personal relationships with non-familial adults
- Strong safety nets to identify disengagement early and to provide adequate supports for renewed mastery
- Mastery of, and a strong sense of efficacy for acquiring, the skills and competencies necessary for a successful transition to adulthood
- A strong sense of mattering
- High quality instruction in a psychologically and physically safe environment
- Visioning a productive adulthood along with the means of obtaining the associated goals

I also reviewed the evidence from several middle school reform efforts that have successfully provided such opportunities for the vast majority of the students and, as a result, have reduced the drop out rates in secondary school.

It is clear that we can design more effective middle grades experiences for American early adolescent children and that, when we do, they both feel confident in their abilities to master the academic content of school, and continue to want to be engaged in their own education.

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