

## Schools as Developmental Contexts During Adolescence

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Considerable strides have been made in the past decade in recognizing the centrality of the cultural context of schooling to adolescent development. In this review, adopting a developmental systems conceptualization of schooling, we focus on selected new research findings from the past decade regarding how (a) teachers, curricular tasks, and classroom environments; (b) aspects of the school as an organization; and (c) district policies and practices can play an instrumental role in adolescents' intellectual and social–emotional development.

Adolescents spend more time in school than any other setting except their bed. It is the place where they are exposed to their culture's font of knowledge, hang out with their friends, engage in extracurricular activities that can shape their identities, and prepare for their future. Consequently, experiences at school influence every aspect of development during adolescence, ranging from the breadth and depth of their intellectual capital to their psychological well-being to the nature of peer influences on their development (Wigfield, Eccles, Schiefele, Roeser, & Davis-Kean, 2006). Some youth thrive at school—enjoying and benefitting from most of their experiences there; others muddle along and cope as best they can with the stress and demands of the moment; and still others find school an alienating and unpleasant place to be—a place that is difficult to enjoy and benefit from. In this paper, we summarize some of the major research initiatives and findings of the last decade related to the many ways in which experiences at school might relate to adolescents' academic and social–emotional development during the second decade of life. Page limitations have forced us to cite only representative studies. A longer version of this paper can be obtained from the authors.

In our own work, we have conceptualized the context of schooling as one that bridges between the macro-level of society and culture that shapes district policies and the practices of education from afar, and the middle- and microlevels of the district, the school as an organization, and the classrooms within a school whose people, through daily acts of leadership, teaching, and social interaction, affect adolescents' learning and development in immediate ways (see Eccles & Roeser, 2010; Roeser, Urdan, &

Stephens, 2009). Here, we focus and organize our review around the latter two middle and microlevels of the context of schooling, beginning first with contextual features associated with teachers, curricular tasks, and classroom environments (Level 1), then moving to the level of the whole school (Level 2), and finally to the level of district policies (Level 3).

### LEVEL 1: TEACHERS, TASKS, AND CLASSROOM ENVIRONMENTS

Teachers, with their professional qualifications and identity beliefs as well as their pedagogical skills and curricular choices, represent some of the most proximal influences on the development of adolescents in school (Pianta and Hamre, 2009). During the past decade, research in education, psychology, and economics in particular has begun to examine how such teacher factors affect the intellectual development of youth.

#### Teacher Qualifications

The importance of teacher qualifications such as certification, majoring in the subject matter one teaches, and years of teaching experience for students' achievement and graduation rates has now been demonstrated in many countries (Akiba, LeTendre, & Scribner, 2007; Koedel, 2008). Unfortunately, the likelihood of having well-qualified teachers differs across socially defined groups in the United States: Large proportions of the teaching staff in poor schools are made up of noncredentialed or unqualified teachers. Substitutes also regularly fill the places of full-time teachers in these schools, staff turnover is great, and there is often little support for English language learners (Fashola, Slavin, Calderon,

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& Duran, 2001; Peske & Haycock, 2006). Thus, poor and language minority students are much more likely to be exposed to unqualified teachers, with implications for their intellectual development. Just how to improve teacher quality, especially in high-concentration poor and ethnic-minority school environments, remains a key challenge in education today and in the upcoming reauthorization of federal educational legislation. From a developmental perspective, more research is needed on how the quality and qualifications of teachers change as young people progress through elementary and into middle and high school and the effect that such changes have on individuals' academic life-paths and issues of educational equity more generally.

### Curriculum and Academic Work

The nature of the academic work students are asked to do can affect not only what students come to know about themselves and their world, but also their capacities to pay attention, their interests and passions, and their morals and ethics. Two key aspects of academic work are particularly important for adolescents' development: (a) the content of the curriculum in terms of its intellectual substance and its consideration of global social-historical realities (e.g., Noddings, 2005) and (b) the design of instruction to cultivate interest, meaningfulness, and challenge as well as deep cognitive, emotional, and behavioral engagement with the material (Fredricks, Blumefeld, & Paris, 2004). Both of these characteristics vary in terms of their relative match or mismatch with the developmental needs and capacities of students of different ages, cultures, and social backgrounds. Cross-sectional and longitudinal correlational evidence support the notion that academic work that is meaningful to the developmental interests and cultural reality of adolescents' experience promotes motivation to learn and helps to "bond" young people with the institution of school (Burchinal, Roberts, Zeisel, & Rowley, 2008; Roeser, Eccles, & Sameroff, 2000). For instance, boredom in school, low interest, and perceived irrelevance of the curriculum predict diminished engagement and learning and withdrawing from school (Finn, 2006; National Research Council and Institute of Medicine (NRC/IOM), 2004). Minority students in particular report greater interest in courses in which voices, images, role models, and historical experiences of traditionally under-represented groups are represented (Graham & Taylor, 2002). Nonetheless, providing curricula that address developmentally and culturally meaningful topics to a diverse and large school pop-

ulation is an on-going challenge in the United States and many developed nations today, and little attempt has been made to evaluate curricular materials in terms of their meaningfulness to students.

The nature of instruction can also influence adolescents' motivation, engagement, and learning (Deci & Ryan, 2002; Fredricks et al., 2004; Hattie, 2009). Choosing materials that provide an appropriate level of challenge for a given class, designing learning activities that require diverse cognitive operations (e.g., opinion, following routines, memory, comprehension), structuring lessons so they build on each other in a systematic fashion, using multiple representations of a given problem, and explicitly teaching students strategies that assist in learning (e.g., asking oneself if one has understood what was just read) are but a few of the design features that can "scaffold" learning and promote interest, engagement, and learning. Work on the role of interest in learning, engagement, and intrinsic motivation highlights the important role of the design of academic tasks (Renninger, 2000). Increased interest is associated with greater engagement in the task and higher levels of mastery of the material (Fredricks et al., 2004; Hattie, 2009; Wigfield et al., 2006). Even more importantly, interesting tasks increase intrinsic motivation to do well (Deci & Ryan, 2002) and increase the odds that students develop a strong personal identity as a committed school student (Eccles, 2009).

From a developmental perspective, there is evidence that the content and design of academic work may not change over time in ways that reflect the increasing cognitive sophistication, diverse life experiences, and identity-linked motivational needs of children and adolescents as they move from the elementary into the secondary school years (Eccles, 2009; Roeser, Peck, & Nasir, 2006; Wigfield et al., 2006). As one indication, middle school children report the highest rates of boredom when doing schoolwork, especially passive work (e.g., listening to lectures) and in particular classes such as social studies, mathematics, and science (Larson, 2000). Academic work becomes less, rather than more, complex in terms of the cognitive demands as children move from elementary to junior high school (Juvonen, 2007). It may be that declines in adolescents' motivation during the transition to secondary school in part reflects academic work that lacks challenge and meaning commensurate with children's cognitive and emotional needs. For instance, Roeser et al. (2000) found that perceived curricular meaningfulness was a positive predictor of longitudinal changes in their valuing of and commitment to school from the beginning to the end of middle school.

## Teacher Beliefs

Teachers' professional identity beliefs also matter for their pedagogical decisions and the ways they interact with different types of students. Various kinds of teacher beliefs have been posited to mediate the effects of teachers on adolescents' achievement (Wigfield et al., 2006). For example, secondary school students with teachers who feel efficacious with regard to their ability to teach all of the students in their class learn more and feel better about themselves as learners (Hattie, 2009; Lee & Smith, 2001; NRC/IOM, 2004). In the last decade, Woolfolk and colleagues have extended the concept of teacher efficacy to a broader construct they label teacher optimism (Beard, Hoy, & Woolfolk Hoy, 2010; Knoblauch, & Woolfolk Hoy, 2007) that is composed of three components: confidence in one's ability to teach the students and in students' ability to learn and master demanding material and trust of both students and parents. These scholars argue that teacher optimism: (1) is a key underlying motivational construct that drives effective teaching and effective relationships between teachers and both students and their parents, (2) operates at both the individual teacher and collective school-wide levels, and (3) can be influenced by school structural characteristics. Most of the existing work has focused on elementary school teachers, but given the established importance of teacher efficacy at the secondary school level and the importance of the issue of adult-adolescent trust for positive relationships, it is quite likely that teacher optimism is important during the secondary school years as well.

Unfortunately, the proportion of teachers with a high sense of teacher efficacy decreases as children move from elementary into secondary school and the proportion of secondary school teachers with a strong sense of teaching efficacy is lower in schools that educate a predominance of poor and minority children (Juvonen, 2007; Juvonen, Nishina, & Graham, 2006; NRC/IOM, 2004; Wigfield et al., 2006). Although this has not been tested systematically yet, it is likely that teacher optimism is also lower among secondary school teachers, particularly middle school and junior high school teachers, than among elementary school teachers.

*Expectations and differential treatment.* Teachers vary in their expectations for the success of individual students in their classrooms, and these beliefs are related to differential treatment and to differential student outcomes (Hattie, 2009; Jussim & Harber, 2005; NRC/IOM, 2004). In general, the teacher

expectations literature has shown that these effects are small on average but can have substantial cumulative negative effects on motivation and achievement for students from stigmatized groups (e.g., girls in math, boys in reading, and African American and Hispanic students in all subject areas). Recent studies have also shown that teachers' implicit stereotypes about gender and about race predict differential teacher expectations for male versus female students and for students from different ethnic/racial groups (Chalabaev, Sarrazin, Trouilloud, & Jussim, 2009; Van Den Bergh, Denessen, Hornstra, Voeten, & Holland, 2010).

Much of the work related to this phenomenon in the last decade has focused on differential treatment based on race or ethnic group and has relied on students' perceptions of differential treatment. Researchers interested in the relatively poor academic performance of adolescents from stigmatized groups have suggested that discrimination or teachers' differential treatment of students based on ethnicity, race, or gender may play a role (Brody et al., 2006; Chavous, Rivas-Drake, Smalls, Griffin, & Cogburn, 2008; Graham & Taylor, 2002; Wong, Eccles, & Sameroff, 2003). For instance, in a 2-year longitudinal analysis of African American early adolescents across 7th–9th grade of junior high, Wong et al. (2003) found that adolescents who perceived more incidents of racial discrimination with teachers, school staff, and classmates in grade 8 also showed declines in their academic self-concept and teacher-reported grades and increases in their self-reported psychological distress from grade 7 to grade 9. In contrast, anticipated future discrimination appeared to motivate the youth to do their very best so that they would be maximally equipped to deal with future discrimination. Similarly, in a large study of Asian, Mexican, and Central and South American immigrant high school students growing up in major metropolitan areas of the United States, Portes and Rumbaut (2001) found that a majority of youth in their sample reported feeling discriminated at school and in other settings.

Furthermore, some researchers report that students' perceptions of racial/ethnic discrimination increase as they move through secondary school. For example, in Greene, Way, and Pahl (2006), African American and Asian American adolescents (but not Puerto Rican students) reported increasing levels of discrimination from adults (and peers in the case of the African Americans) as they moved through high school. Finally, several studies suggest that having a strong positive ethnic identity serves as a protective factor against the potential aversive effects of daily

experiences of ethnic discrimination at school (Burchinal et al., 2008; Chavous et al., 2008; Harris-Britt, Valrie, Kurtz-Costes, & Rowley, 2007; Wong et al., 2003).

*Pedagogical goals and beliefs about the nature of ability.* Another key set of teacher beliefs relates to the goals that underlie aspects of their teaching practices. Advocates of Achievement-Goal Theory argue that mastery- or relative ability-oriented classrooms can emerge from the goals that teachers hold about the purposes of learning and related ways of teaching (see Midgley, 2002). Goal theorists have identified two particular goal-oriented approaches to instruction or goal structures. In the first pattern, called a mastery-goal orientation, teachers emphasize in their instructional practice students' mastery of material, investment of effort, self-improvement, progressive skill development, and collaborative work assignments (Midgley, 2002). These teachers stress the importance of understanding work and not just memorizing it, and they make an effort to provide students with work that has meaning in their everyday lives. In the second pattern, called a relative-ability-goal orientation, teachers believe that the goal of learning is for students' to demonstrate their abilities relative to others. Grouping by ability, differential rewards for high achievers, public evaluative feedback, academic competitions, and other practices that promote the notion that academic success means outperforming others and proving one's superior ability are practices used by teachers who espouse such goals (Hattie, 2009; Midgley, 2002). In a review of 25 years of research in Achievement-Goal Theory on learning environments that emphasize these two different goal orientations or goal structures, Meece, Anderman, and Anderman (2005) concluded that "whereas school environments that are focused on demonstrating high ability and competing for grades can increase the academic performance of some students, research suggests that many young people experience diminished motivation under these conditions" (p. 487). In a study using person-centered analyses, Roeser et al. (2000) found that the students most at risk for school failure were most aware of, and presumably affected by, a relative-ability goal orientation in their school. In addition, in a meta-analysis the effects of competitive, cooperative, or individualistic goal structures on the achievement and peer relationships of over 17,000 adolescents, Roseth, Johnson, and Johnson (2008) found that higher achievement and more positive peer relationships were associated with cooperative rather than competitive or individualistic goal structures.

Dweck and colleagues argue that teacher strategies linked to a mastery versus relative-ability orientation are associated with the teachers' beliefs about the nature of students' academic ability and intelligence (Dweck, 2006). If teachers believe that intelligence is a fixed entity rather than a modifiable skill, they are likely to use ability-focused pedagogical strategies. Similarly, students who see intelligence as a fixed entity are likely to adopt a relative ability-focused orientation to learning. If they are doing very well academically, this orientation may not cause them problems, but if they are not doing very well, such an orientation is likely to undermine their engagement in learning and in school. In support of this view, students exposed to an intervention that emphasized the malleability of intelligence promoted positive change in students' classroom motivation and seemed to ameliorate some of the downward trend in grades normally found after the transition to secondary school (Blackwell, Trzesniewski, & Dweck, 2007). In addition, in a review of what amounted to three rigorously designed intervention studies aimed at reducing the detrimental effects of stereotype threats on the achievement of African American students, Aronson et al. (2009) identified three main components of the interventions that worked that seemed the most crucial: (a) reinforcement of the idea that intelligence is malleable and, like a muscle, grows stronger when exercised; (b) reinforcement of the idea that difficulties in school are often part of a normal learning curve or adjustment process, rather than something unique to a particular student or his/her racial group; and (c) provisions of opportunities for students to reflect on other values in their lives beyond school that are sources of self-worth for them. Thus, changing mindsets around issues of intelligence and related goal orientations through mastery-oriented pedagogy and an emphasis on the malleability of intelligence through effort are crucial for supporting the motivation of all students, especially those from groups traditionally targeted with stereotypes of intellectual inferiority. Such interventions are also likely to engender positive mental health consequences for adolescent students as well (e.g., Roeser, Marachi, & Gelhback, 2002; Roeser & Peck, 2003; Seligman, Ernst, Gillham, Reivich, & Linkins, 2009).

Given these findings, it is unfortunate that school leaders' and teachers' use of performance-oriented instructional practices increases as adolescents move into and through secondary school. This increase in the likelihood of adolescents being exposed to more performance-oriented/relative ability focused classrooms likely contributes to the declines that exist

during adolescence in school motivation, school engagement, and achievement (Midgley, 2002; Roeser et al., 2002). This suggests the learning environments of secondary school become less supportive and less motivating for all but the highest achieving students as adolescents move through school.

### **Teacher–Student Relationships and Classroom Emotional Climate**

Both cross-sectional and longitudinal studies have shown that the quality of teacher–student relationships and students’ feelings of classroom belonging predict changes in students’ academic motivation, engagement and learning, and social–emotional well-being in school (Burchinal et al., 2008; Deci & Ryan, 2002; Hattie, 2009; NRC/IOM, 2004; Roeser et al., 2000; Wentzel & Wigfield, 2007). Sense of belonging may be especially critical for young people who must traverse significant ethnic and racial, socioeconomic, and sociolinguistic borders to feel fully part of a school in which middle-class, majority cultural norms often predominate (Garcia-Reid, Reid, & Peterson, 2005). In correlational longitudinal studies, adolescents’ perceptions of how caring their teachers are predict gains and losses in their feelings of self-esteem, school belonging, and positive affect in school (Hattie, 2009; NRC/IOM, 2004; Zimmer-Gembeck, Chipuer, Hanisch, Creed, & McGregor, 2006).

Declines in the average levels of adolescents’ perception of emotional support from their teachers and in a sense of belonging in the classroom are quite common as students move from elementary into secondary schools (Burchinal et al., 2008; NRC/IOM, 2004; Wigfield et al., 2006; Zimmer-Gembeck et al., 2006). This shift is particularly troublesome in our highly mobile society in which teachers represent one of the last stable sources of nonparental role models for adolescents. In addition to teaching, teachers in mobile societies such as the United States can provide guidance and assistance when socio-emotional or academic problems arise. This role is especially important for promoting developmental competence when conditions in the family and neighborhood cannot or do not provide such supports (NRC/IOM, 2004; Roeser & Peck, 2003).

Evidence supporting the link of better student motivation, general well-being, and classroom engagement with more positive supportive classroom climates is also quite strong (Wigfield et al., 2006). Researchers interested in Self-Determination Theory, for instance, have investigated the relations of dimensions of the classroom climate to adolescents’

motivation, engagement, and socioemotional development (Deci & Ryan, 2002). These scholars argue that motivation, engagement, learning, and well-being will be highest in classrooms and schools in which the climate and culture stress and provide opportunities for the students to feel autonomous, competent, and emotionally supported. Such classrooms and schools would (1) provide the students with a voice in how the classroom is run and what kinds of assignments are made, (2) allow all students to be successful at the required academic and social tasks, and (3) provide emotional support to all students. Both correlational longitudinal and randomized trial intervention studies support these predictions (Niemic & Ryan, 2009; Zimmer-Gembeck et al., 2006).

Over the last decade, several researchers have looked more specifically at the association between classroom climate and students’ emotions in the classroom and, in turn, their motivation and learning (Frenzel, Pekrun, & Goetz, 2007; Hattie, 2009; Pekrun, Goetz, Titz, & Perry, 2002). These researchers argue that emotional reactions to experiences in the classroom have a large impact on student engagement and learning and have separated individual emotional reactions to classroom experiences from shared emotional reactions. Findings suggest that shared emotional reactions across students within the same classroom are influenced by shared perceptions of teachers’ enthusiasm and enjoyment (Frenzel et al., 2007). Furthermore, these shared positive and negative emotions are linked to the general level of achievement in the classroom: As a group, students in high-achieving classrooms reported more positive emotions (pride and enjoyment) and less extreme negative emotions (anxiety, shame, and hopelessness).

## **LEVEL 2: BROADER SCHOOL-WIDE CHARACTERISTICS**

### **School Culture**

The concept of the culture of the school and the fact that different schools, like different communities, vary in their interpersonal, moral, and academic cultures, have been central to our understanding of school effects on adolescent development (Roeser et al., 2009). During the last decade, much of the work in this area has focused on two issues: school cultures that facilitate academic engagement and learning by all students (Bandura, 2006; Lee & Smith, 2001; NRC/IOM, 2004) and school cultures linked to school safety. Much of the work on the former draws

directly on the work on Catholic and private schools done by Bryk, Lee, and Holland (1993). Using a similar approach to understanding successful versus less successful public high schools, Lee and Smith (2001) found that successful public high schools (schools with higher average levels of academic achievement and fewer SES and race/ethnic differences in academic achievement) were characterized by high value placed on learning, high expectations that all students can learn and master a core curriculum, and the belief that though the business of school is learning, each person has inherent value and dignity and is a valued member of a social community (Hattie, 2009; Stewart, 2007).

### School Safety

**School violence.** Researchers have focused more on bullying and victimization because being a victim of bullying and feeling unsafe at school predict decreasing levels of psychological adjustment, school engagement, and academic achievement (Graham & Bellmore, 2007; Nishina & Juvonen, 2005). Unfortunately, recent statistics suggest that bullying is quite common in America's secondary schools (National Center for Educational Statistics, 2007). The frequency of being exposed to bullying varies as a function of several characteristics of the school: Rates are higher in larger schools and in schools with higher proportions of students from low income families, for instance (Gottfredson, Gottfredson, Payne, & Gottfredson, 2005; Gregory et al., 2010). Graham and colleagues (Graham, 2006; Juvonen et al., 2006) also found that greater ethnic diversity in both the classroom and the school predicts reduced levels of both bullying and the negative consequences of being bullied for students who are members of the least well-represented minority groups. Astor and colleagues (Benbenishty & Astor, 2007; Benbenishty, Astor, Zeira, & Vinokus, 2002) have shown that both the levels of school violence and students' concerns about their safety at school decrease as the social climate in the school improves. Similarly, Crosnoe, Johnson, and Elder (2004) found that bonding with the teachers in one's school is positively linked to feeling safe at school. It is likely that these two aspects of schools are reciprocally related: as the social climate deteriorates, violence increases, and as violence and bullying increases, the general social climate in the school further deteriorates. Using HLM with cross-sectional data, Gregory et al. (2010) found that both perceived bullying and reported victimization are lower in schools in which both the students and the

teachers rate the prevalence of consistent authoritative discipline and social support as high. Similarly, several scholars interested in school violence point to the importance of the moral authority of the adults in the school coupled with the acceptability of violence to the students (LeBlanc, Swisher, Vitaro, & Tremblay, 2007; Stewart, 2003).

Given the importance of school discipline and safety, many interventions have been designed and tested over the last 20–30 years. In addition, many American schools have adopted Zero Tolerance policies with regard to violence. What have we learned about what works? In 2008, the American Psychological Association released a report from its Zero Tolerance Task force (The American Psychological Association Zero Tolerance Task Force, 2008). The authors of this report concluded that evidence for the effectiveness of Zero Tolerance policies is weak, and schools with such policies often show worsening conditions rather than improvement at the school level. Often these policies result in higher rates of suspension, particularly for students of color, poor students, and students with disabilities without leading to improvements in school safety. The APA report argues for interventions aimed at changing the general school climate, at reconnecting alienated students and increasing school bonding, at developing a planned continuum of steps to be followed with at-risk students, and at increasing the collaboration between the various community, school and family stakeholders instead. Unfortunately, achieving these multiple goals is not easy, as has been shown by a meta-analysis of whole school reform efforts focused on violence (Smith, Schneider, Smith, & Ananiadou, 2004). Clearly much more research is needed on how to successfully implement the kinds of integrated interventions suggested by the APA Task Force.

**Harassment of sexual minority youth.** Over the past decade, there has been increased attention to ways in which harassment and bullying at school influence the development and well-being of lesbian, gay, bisexual, and transgender (LGBT) youth in particular. Because LGBT youth are at higher risk of mental health difficulties than heterosexually identified youth, including suicidal ideation, substance misuse, and deliberate self-harm (King et al., 2008; Meyer, 2003), research has focused on the emergence of such difficulties in the schools in which adolescents develop. Among self-identified LGBT youth, adolescent males, adolescents who attend rural schools in isolated communities, and younger adolescents are at greatest risk of exposure to homophobic language or

other forms of verbal and physical victimization in school related to their sexual orientation (Kosciw, Greytak, & Diaz, 2009; Russell, Seif, & Truong, 2001). Furthermore, exposure to homophobic victimization at school, as well as exposure to an unsafe school climate, predicts subsequent psychological and social outcomes (such as increased anxiety, depression, substance use, suicidality, engagement in risky sex, and a decreased sense of school belonging) for LGBT youth, especially males (Eisenberg & Resnick, 2006; Espelage, Aragon, Birkett, & Koenig, 2008; Murdock & Bloch, 2005; Poteat & Espelage, 2007). Subgroup differences by orientation within the LGBT population have been examined, but few clear results have emerged (Murdock & Bloch, 2005; Poteat & Espelage, 2007; Russell et al., 2001).

Some intervention and policy research is beginning to examine how the sexual diversity climate of secondary schools can be improved for all students through inclusive policies, conscious efforts to educate students and staff on sexual diversity issues, and the existence of a Gay-Straight Alliance in the school (e.g., Szalacha, 2003). Much of the field research cited above also is suggestive of the protective value of supportive teachers, support groups for LGBT youth, and safe school climates generally in ameliorating risk among LGBT youth (e.g., Goodenow, Szalacha, & Westheimer, 2006).

### School Student Body and Peer Influences

The aggregate social background characteristics of the student body also have been investigated as a key factor in student achievement (Rutter & Maughan, 2002). The “mix” of socially disadvantaged students or those with significant emotional-behavioral difficulties in a school has been associated with the educational outcomes of all students in a given school (Crosnoe, 2009; Rumberger & Palardy, 2005). Furthermore, between-school variations in the proportion of students with histories of disruptive problems predicted subsequent rates of classroom behavior problems among high school students, for example (LeBlanc et al., 2007). Similarly, as the ratio of students who are socially disadvantaged goes up in a school, its aggregate achievement goes down (Rumberger & Palardy, 2005). Given the disproportionate number of African American and Latino youth who are socially disadvantaged, this is highly problematic. In the United States, nearly half of all African American students and almost 40% of all Latino students attend high schools in which most students do not graduate (Balfanz & Legters, 2004). This gives rise to a view of curtailed educational

attainments of members of these groups as normative and serves to reify debilitating cultural stereotypes about group members’ academic ability. A variety of mechanisms, including those of peer influences on motivation understood in the context of tracking, and social environments in which maladaptive norms develop, have been proposed to account for these influences (Crosnoe, 2005; Wigfield et al., 2006).

In support of these hypothesized mechanisms, new research has focused on the influences of peer groups and peer cultures on students’ motivation and achievement in school. The ADD Health data set in particular has made such studies possible because it is longitudinal and has extensive social network information that allows researchers to link changes at the individual level to (a) between individual variations in their experiences within their friendships and peer networks, as well as (b) within the larger peer cultures characteristic of whole schools. The most ambitious work in this area is the work being done by Frank and colleagues (Crosnoe, 2007; Crosnoe, Riegle-Crumb, Field, Frank, & Muller, 2008; Frank et al., 2008; Riegle-Crumb, Farkas, & Muller, 2006). For example, in an important paper, Frank et al. (2008) demonstrated first that one can classify individual students’ local peer social position in terms of the network of students with whom they take the same classes. They argue that peer norms and “cultures” at this structural level are likely to yield the strongest “peer influences” on individual students’ identity formation, short- and long-term goals and aspirations, and educational choices during the secondary school years. They go to show that being a member of a group of students taking the college preparatory math sequence in early high school increases the likelihood of taking advanced math courses later in high school substantially, particularly for girls who perform below the group mean in mathematics in early high school. They also compared the amount of individual variation in high school math course taking explained by individual characteristics, local peer social position, and school level variation in course taking patterns and found that 44% of the within-school variance in young women’s (and 35% in young men’s) math course taking is explained by the “emergent but observable sociological entity” (p. 1675) they call “local position.” Finally, they argue that schools can implement practices that increase the likelihood that many students will be in local positions linked to high school achievement and successful transitions into college.

Other studies by this group of scholars and others have demonstrated a strong link between the norms

and practices of one's friendship network and larger peer group within the school context and changes over time in the behaviors and goals/aspirations, and social and personal identities of individuals, even after controlling for the relevant individual and family-level characteristics. Hanging out with and taking courses with achievement-oriented peers both reduces the likelihood of becoming involved in risky behaviors and dropping out of school and increases the likelihood of positive academic outcomes (Crosnoe, Cavanagh, & Elder, 2003; Crosnoe, Muller, & Frank, 2004; Crosnoe et al., 2008; Ream & Rumberger, 2008; Stewart, 2007). Interestingly, the protective associations of having academic friends are larger for females than for males. But, consistent with Marsh's notion of the "big fish in a small pond" (Marsh, Trautwein, Lüdtke, & Brettschneider, 2008), among those girls who failed a course over the 2-year time span between waves of data collection, those who hung out with academic friends were more likely to suffer a decrease in their academic self-concept over time than those who hung out with less academically oriented friends. Finally, the longer term negative consequences of drinking alcohol in high school are less marked for those youth who have high achievement-oriented friends (Crosnoe et al., 2004). Similar results characterize the mediating role of peer group characteristics in the association between participation in extracurricular activities and both positive and negative indicators of adolescent development (Eccles, Barber, Stone, & Hunt, 2003; Mahoney, Larson, & Eccles, 2005).

Crosnoe and colleagues have also looked at the role of the larger peer group on the association of obesity on school achievement and well-being. In general, girls who are obese are less likely to enter college, more likely to fail courses, more likely to be truant, and more likely to show mental health problems, net of other relevant individual and family background characteristics, than girls who are not. By and large these relationships were not evident for boys. But more importantly for this section, the associations of obesity with college attendance and truancy were stronger for girls who attended high schools with very few obese students, suggesting that the stigma associated with obesity varies by gender and by the proportion of the student body that is obese. Crosnoe and Muller (2004) also found that the longitudinal link between obesity and lower school achievement, net of all other personal and social covariates, is stronger in schools with "high rates of romantic activity and lower average body size among the students" (p. 393).

All of these results are consistent with person-environment fit theory in that individuals fair best in settings in which they fit well with the norms and aggregate characteristics of students and much less well in settings in which they are outliers. The recent work on the role of peers and friends also supports the perspective that personal and social identities are critical in understanding adolescents' school engagement, that individual and group differences in these identities are influenced by the peer groups one has joined or aspires to join, and that these processes are directly influenced by school-wide characteristics and policies that shape the peer group structures that emerge within the school building. Specifically, peer group structures are influenced by differential course taking patterns, differential curricular tracking, differential extracurricular activity choices, and the more general processes associated with niche-picking (Crosnoe & Muller, 2010; Eccles, 2009; Eccles et al., 2003; Frank et al., 2008).

### LEVEL 3: DISTRICT-WIDE POLICIES

Many aspects of within-classroom and within-school interactions are influenced by district-wide policies and characteristics. Often these characteristics and policies reflect local political and cultural beliefs, as well as local economic conditions. We review work on several such school-wide characteristics and practices including school size, grade configurations, tracking policies, school start and end times, and the availability of extracurricular activities.

#### Grade Configurations and School Transitions

School transitions are an excellent example of how the multiple levels of school interact to affect development. All school districts must decide both when they allow children to begin school and how they will group the grade levels within the various school buildings. One common arrangement is to group children in grades kindergarten through 5th or 6th grade in elementary schools, children in grades 6 or 7 through 8 or 9 in junior high or middle schools, and children in grades 9 or 10 through 12 in senior high schools. The other common arrangement places the transition to secondary school after grade 8—creating elementary schools made of grades K–8 and senior high schools made up of grades 9–12. In both of these arrangements, children typically move to a new and often larger building at each of the major school transition points. These school transitions typically also involve increased bussing and exposure to a much more diverse student body. How

might such changes influence development? This question has attracted a great deal of research and policy attention over the past 25 years due primarily to concerns about the declines in motivation, achievement, and engagement in schools during school transitions in adolescence. Most of the work in the 1990s focused on the middle or junior high school transition; over the last 10 years, there has been increasing work on the transition into high school and then into college.

There is consistent evidence of average level declines in academic motivation, interest in school, and achievement across the adolescence years, particularly as adolescents make the transition to middle or junior high school and again when they make the transition into high school (Juvonen, 2007; Wigfield et al., 2006). Although these changes are not extreme for most adolescents and many adolescents show positive changes in response to these transitions, a substantial number of adolescents become less interested in and less engaged in their education as they move into and through secondary school, leading to excessively high rates of school failure and drop out, particularly among ethnic/racial minority youth, lower SES youth, immigrant youth, and youth who have difficulty with the academic school agenda (Rumberger & Lim, 2008). Why? Some researchers point to the biological changes (both hormonal and brain maturation) associated with adolescent development (Dahl, 2008; Steinberg, 2008). Others point to more social contextual factors linked to pubertal development and to major school transitions (Eccles et al., 1993). However, almost all researchers now point to the confluence of changes at the biological, psychological, and social levels. Given space limitation in this article, we focus on the role of context. Both Eccles and Midgley and Simmons and Blyth proposed that average level declines in school motivation during adolescence might reflect changes in the experiences adolescents have as they move from elementary school into middle or junior high school and then again into high school. Eccles and Midgley referred to this possibility in terms of changing Person-Environment Fit (Stage-Environment Fit theory). For example, most junior high schools are substantially larger than elementary schools, and instruction is more likely to be organized departmentally. As a result, junior high school teachers typically teach several different groups of students, making it very difficult for students to form a close relationship with any school-affiliated adult precisely at the point in development when there is a great need for guidance and support from nonfamilial adults. Such changes in student-teacher relationships are also

likely to undermine the sense of community and trust between students and teachers, leading to a lowered sense of efficacy among the teachers, an increased reliance on authoritarian control practices by the teachers, and an increased sense of alienation among the students. Lee and Smith (2001) noted similar types of changes associated with the transition to high school. Such changes are likely to decrease the probability that any particular student's difficulties will be noticed early enough to get the student necessary help, thus increasing the likelihood that students on the edge will be allowed to slip onto negative motivational and performance trajectories leading to increased school failure and drop out. Correlational longitudinal research is accumulating to support these sets hypotheses regarding both the middle or junior high school transition and the high school transition, particularly for adolescents who are having difficulty with the academic school agenda (Juvonen, 2007; Lee & Smith, 2001; NRC/IOM, 2004; Roeser, Eccles, & Freedman-Doan, 1999).

### School Size

For many years, scholars have argued for the benefits of small schools: These scholars hypothesized that smaller secondary schools afford young people various opportunities not available in larger schools, opportunities that foster engagement and achievement. Such opportunities include (a) closer relationships between teachers and students, (b) greater adult monitoring of and responsibility for student progress, and (c) a particularly favorable roles-to-people ratio with respect to school extracurricular activities and the need for many students in the school to participate to fulfill those roles. By affecting these mediating processes, school size was hypothesized to affect student outcomes. Subsequent research has consistently verified these hypotheses. For instance, in a national probability study of high school students, Crosnoe et al. (2004) found that students' attachment to school in general and to their teachers in particular was significantly, negatively correlated with school size (see also Hawkins, Kosterman, Catalano, Kill, & Abbott, 2008). In summarizing the work of school size, Leithwood and Jantzi (2009) proposed that the most effective K-8 elementary schools with respect to student achievement gains are those that enroll 300-500 students or less, whereas the ideal 9-12 secondary school in this regard enrolls between 600 and 1,000 students. This work and studies by others suggest that the impact of school size on achievement depends on quality of

instruction provided: If the schools focus primarily on social climate and devote limited focus on academic press, the students feel quite good about attending the school but their academic achievement is no higher than students attending much larger schools (Wyse, Keesler, & Schneider, 2008). Again, this work provides a nice illustration of how it is complex configurations of factors in school systems, not single factors in isolation, that account for "school effects" per se on students (Roeser et al., 2009).

Others have studied issues of school size in the context of the schools-within-schools or small learning community approaches (Lee & Ready, 2007; Maroulis & Gomez, 2008; Ready & Lee, 2008). The schools-within-schools approach grew out of two concerns: reducing the size of each student's learning community without having to build new schools and providing students with greater choice over their high school curriculum. Educators decided that they could create several smaller learning communities within the existing large high school buildings. Furthermore, they decided that they could increase student choice and sense of autonomy by focusing these smaller learning communities on specific subject matter or career topics like math/science, the arts, health, and vocational education. Unfortunately, unless school administrators are very careful, these smaller learning communities often end up creating the same problems that have been discussed with respect to academic tracking; namely, tracking is highly linked to the students' social class, which can then exacerbate problems of inequity in educational experiences (Ready & Lee, 2008). The students like these smaller learning communities and report feeling that their educational options fit better with their own career and educational goals, even though they acknowledge the status hierarchies associated with the different communities that can be created along social class lines in certain schools-within-schools programs.

### **School Start and End Time**

School start time is yet another example of how regulatory processes associated with schools can interact with individual regulatory processes, here biological ones, to influence development. Research has shown that, as children progress through puberty they actually need more, not less, sleep (Carskadon, 1997; Dahl, 2008; Sadeh, Dahl, Shahar, & Rosenblat-Stein, 2009). In addition, preferred diurnal patterns of sleep and wake cycles shift developmentally such that adolescents prefer to stay up later

at night and to sleep later in the morning. This tendency is exacerbated in modern American culture by the fact that many adolescents have TVs and computers/cell phones in their bedrooms, which they use until late at night, and by the increased use of caffeine to induce wakefulness (Whalen et al., 2008). During this same period, as children move through elementary to middle and high school, schools typically begin earlier and earlier in the morning, necessitating earlier rise times for adolescents (Carskadon, 1997). In concert with other changes, such as the later hours at which adolescents go to bed, the earlier school start times of the middle and high school create a "developmental mismatch" that can both promote daytime sleepiness and undermine adolescents' ability to make it to school on time, alert and ready to learn. The time which school begins has implications for other aspects of adolescent development. Increasing evidence suggests that the sleep deprivation created by early school start times is linked to increasing levels of depression, aggression, and risk taking during adolescence, as well as the increasing desire for reward-driven behaviors and the increasing perception of academic classes being boring (Dahl, 2008; Holm et al., 2009; Whalen et al., 2008). Interestingly, sleep deprivation also increases the rate of pubertal development, which may lead the youth to think they are more mature than their brains actually are, as well as leading other individuals to engage such youth in more risky opportunities related to drinking alcohol, driving cars, smoking, and having early and unprotected sex (Sadeh et al., 2009).

Finally, the time at which school ends also has implications for adolescents' behavior. In communities where few structured opportunities for after-school activities exist, especially impoverished communities, adolescents are more likely to be involved in high-risk behaviors such as substance use, crime, violence, and sexual activity during the period between 2 and 8 p.m. Providing structured activities either at school or within community organizations after school when many youth have no adults at home to supervise them is an important consideration in preventing them from engaging in high-risk behaviors (Eccles & Templeton, 2002) and for keeping educationally vulnerable students on track academically (Mahoney et al., 2005; Peck, Roeser, Zarrett, & Eccles, 2008).

### **School Tracking Policies**

School districts often have policies regarding both ability level and curricular tracking. Such tracking

policies influence adolescents' daily experiences in their classrooms and in their academic niche within the school (Oakes, 2005). Differentiated curricular experiences for students of different ability levels structure experience and behavior in three major ways: First, tracking determines the quality and kinds of opportunities to learn (Oakes, 2005); second, it determines exposure to different peers and thus, to a certain degree, the nature of social relationships that youth form in school (Dishon, Poulin, & Burraston, 2001); and, finally, it determines the social comparison group students use in assessing their own abilities and developing their academic identities (Marsh et al., 2008).

Despite years of research on the impact of ability tracking practices, few strong and definitive answers have emerged (Hattie, 2009; Wigfield et al., 2006). The strongest justification for tracking practices derives from a person-environment fit perspective. Students will be more motivated to learn if their educational materials and experiences can be adapted to their current competence level. There is some evidence consistent with this perspective for children placed in high-ability classrooms, high within-class ability groups, and college tracks (Frank et al., 2008). In contrast, the results for students placed in low-ability and noncollege tracks do not confirm this hypothesis. By and large, when long-term effects are found for this group of students, they are usually negative primarily because these students are typically provided with inferior educational experience and support (e.g., Darling-Hammond, 2000; Hattie, 2009; Lee & Smith, 2001). Low track placements have been related to poor attitudes toward school, feelings of incompetence, dropping out of school, and problem behaviors (Oakes, 2005).

Social comparison theory leads to a different prediction regarding the effect of ability grouping and curricular tracking on one aspect of development: ability self-concepts. People often compare their own performance with the performances of others to determine how well they are doing (Marsh et al., 2008). Ability grouping should narrow the range of possible social comparisons in such a way as to lead to declines in the ability self-perceptions of higher-ability individuals and to increases in the ability self-perceptions of lower-ability individuals. Marsh and colleagues refer to this effect as the Big Fish in a Small Pond Effect. Evidence supports this prediction. For example, Marsh et al. (2008) have shown consistent evidence that attending a more academically elite high school leads to reductions in students' academic ability self-concepts that persist over time. These results have led Marsh and col-

leagues to conclude that academic tracking comes at a cost of confidence in one's academic abilities for academically able students. Similarly, Frenzel et al. (2007) have found that individual students experience slightly more negative emotions (anxiety, hopelessness, and shame) and slightly fewer positive emotions (enjoyment and pride) when they are in higher achieving classrooms.

Yet another way to think about the impact of ability grouping on development is in terms of its impact on peer groups: Between-classroom ability grouping and curricular differentiation promotes continuity of contact among adolescents with similar levels of achievement and engagement with school. For those doing poorly in school, such practices can structure and promote friendships among students who are similarly alienated from school and are more likely to engage in risky or delinquent behaviors, which, in turn, is likely to facilitate increases in all of the students' engagement in risky behaviors (Crosnoe, 2002; Dishon et al., 2001). The "collecting" of students with poor achievement or adjustment histories also places additional burdens on the teachers in these classrooms, likely further undermining the quality of instruction that students receive (Oakes, 2005).

### **Extracurricular Activities and Service Learning**

The availability of extracurricular activities and opportunities for service learning in secondary schools is determined by district level budget decisions and by the availability of interested faculty and staff within each school. During the last 20 years, many districts have responded to budget deficits by reducing or eliminating funding for extracurricular activities and service learning opportunities. Should we be concerned about these changes? Do extracurricular activities and service influence adolescent development? This question has received a great deal of research in the last decade. By and large, the researchers have been guided by the following hypotheses: Being involved in constructive, organized activities and service learning settings are good for adolescents because (1) doing good things with one's time takes time away from opportunities to get involved in risky activities; (2) one can learn good things (like specific competencies, prosocial values, and attitudes) while engaged in constructive and/or service learning activities; and (3) involvement in organized activity and service learning settings increases the possibility of establishing positive social supports and networks and prosocial values. By and large both the correlational-longitudinal and inter-

vention research supports these assumptions about the positive effects of participation in organized and/or social learning activities (Larson, Hansen, & Moneta, 2006; Mahoney et al., 2005). However, the correlational effect sizes are small, and the evidence from randomized trial interventions is not consistent across studies. More specifically, participation in school-based extracurricular activities has been linked to increases on such positive developmental outcomes as high school GPA, strong school engagement, and high educational aspirations (Eccles et al., 2003), as well as to educational resilience among at-risk youth (Roeser & Peck, 2003; Peck et al., 2008). Similarly, participation in high school extracurricular activities, particularly service-based volunteer activities, predicts high levels of adult participation in the political process and other types of volunteer activities, continued sport engagement, better physical and mental health and reduced participation in risky behaviors (Mahoney et al., 2005; Melchior & Bailis, 2002; NRC/IOM, 2004; Scales, Blyth, Berkas, & Kielsmeier, 2000).

### CONCLUSIONS AND CRITIQUE

Developmental scientists have made significant contributions to the study of the impact of school experiences on adolescent development over the past decade (see Meece & Eccles, 2010, for a comprehensive set of chapters outlining all of this progress). We now know a great deal more about the ways in which experiences at school are linked to a wide variety of indicators of intellectual and social-emotional development during adolescence. Much of what has emerged fits well with three broad theoretical perspectives: (1) stage-environment and person-environment fit perspectives, (2) agency and structure life course developmental perspectives, and (3) identity formation perspectives. Both Eccles and Roeser (2010) and Deci and Ryan (2002) argue that students fare best in settings that fit well with their developmental, culture, and psychological needs. Eccles et al. (1993) also argue that much of the decline in school-related motivation and engagement reflects developmentally inappropriate changes in the nature of schooling as students move from primary school into secondary school. Many of the findings we summarized are consistent with this perspective. Other findings are consistent with the idea that individual development reflects both agentic processes within the individual and structural supports and constraints (Crosnoe, 2005; Crosnoe et al., 2007; Elder & Conger, 2000). Finally, and we find this among the most novel of findings

during the last decade, many of the results are consistent with the following fundamental ideas (see Eccles & Roeser, 2010; Roeser et al., 2006): (1) Adolescents actively create their own identities through their social interactions, (2) the nature of the social interactions they can have are influenced by the worlds they inhabit, (3) these worlds are shaped in part by external structures in which they are allowed to participate and in part by their own choices, and (4) these identities have implications for all aspects of their intellectual and social-emotional development. However, much more work is needed to establish the causal processes assumed to underlie development in each of these perspectives. We believe that this research need is a function of several factors, including a continued heavy reliance on cross-sectional and correlational designs; large, nationally representative data sets that include very limited contextual information, the absence of teachers and teacher data in relation to adolescent outcomes in many studies, and the increasing complexity of what constitutes a "school context" as youth move into the secondary years (Meece & Eccles, 2010; Quint, 2006; Roeser et al., 2009). What is needed now are cross-disciplinary theories of the context of schooling, coupled with powerful theories of adolescent development such as those described in this paper and in Eccles and Roeser (2010), with sophisticated multilevel statistical techniques. Nonetheless, because most school research represents a "simplification" of young people's actual school experience (Lee, 2000), we believe that the need for rich observational and ethnographic studies of schooling will continue to be important sources of inquiry in the field.

In terms of next steps, we believe that several themes merit continued attention. These themes include longitudinal investigations of how students' cultural, ethnic and racial, and social class backgrounds interact with the learning environment of the school, and thereby shape their educational pathways through the school system (Meece & Kurtz-Costes, 2001; Roeser et al., 2006). Another issue needing more investigation concerns the challenges facing different kinds of schools and communities in urban, rural, and suburban settings today (Rosignano, Tomaskovic-Devey, & Crowley, 2006). Approximately 30% of students attended school in cities in 2003–2004, with African American and Latinos overrepresented in urban schools. Approximately 40% attended schools in the suburbs, with European Americans overrepresented in these wealthier school districts. The final 30% of students are in rural schools, including an overrepresentation

of European and Native Americans. Asian American youth are equally likely to attend schools in cities and suburbs, but are rarely found in rural areas. The point we wish to highlight here is that questions about school effects on adolescent development are situated within each of these different geographical locales.

More work is also needed on different types of individuals. In the last decade, we have seen more work on variations related to sexual identity, body size, and ethnic groups. Students vary along many other individual characteristics as well as in ways that are likely to moderate the ways in which experiences at school influence their development. Related to the issue of individual differences, much more work is needed on the reciprocal relationships between identity formation and experiences in school (e.g., Eccles, 2009; Roeser et al., 2006).

Finally, it is important to inquire into how the testing movement in general and the upcoming reauthorization of the No Child Left Behind Act in particular influence the motivational climate in schools and, thereby, aspects of adolescent development (Darling-Hammond, 2000; Nichols & Berliner, 2007).

In summary, considerable strides have been made in the past decade in recognizing the centrality of the cultural context of schooling to adolescent development. We hope the next decade will bring a rich interdisciplinary set of theories to bear on the growing body of research on schooling and adolescent development with the aim of improving the science of education generally.

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