Creating School-Family Partnerships in Adolescence: Challenges and Opportunities

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Abstract
Adolescence is a time of rapid change. These changes present challenges and opportunities for developing youth including physical changes, significant cognitive advancements, emotional maturation, and new peer and romantic relationships. For most adolescents, these changes are also accompanied by changes in their environments including more demanding expectations for independence, more challenging academic tasks, and new expectations for social participation from parents and peers. At the same time, adolescents are becoming more independent from their families while also maintaining a sense of connection to them and to their schools.

Keywords
adolescence, physical changes, cognitive advancements, emotional maturation

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CREATING SCHOOL-FAMILY PARTNERSHIPS IN ADOLESCENCE
Challenges and Opportunities
BRENDA J. LOHMAN AND JENNIFER L. MATJASKO

Adolescence is a time of rapid change. These changes present challenges and opportunities for developing youth including physical changes, significant cognitive advancements, emotional maturation, and new peer and romantic relationships. For most adolescents, these changes are also accompanied by changes in their environments including more demanding expectations for independence, more challenging academic tasks, and new expectations for social participation from parents and peers. At the same time, adolescents are becoming more independent from their families while also maintaining a sense of connection to them and to their schools.

OVERVIEW
The aim of this chapter is to understand how maintaining a healthy sense of connectedness and autonomy from both the family and school mutually interact during the rapidly changing time of adolescence, and overall help improve student competence. In addition, the promising avenues for schools and families to partner in order to enhance student competence are highlighted. First, the adolescent well-being and student competence literature associated with autonomy granting and connectedness from the family followed by a similar discussion for the school context is detailed. The overarching theoretical framework described stresses the importance of family-school partnerships during adolescence in order to enhance student competence. The bulk of the chapter then addresses how these constructs are embedded in the key physical, psychosocial, and behavioral opportunities and challenges of adolescence. For each of these opportunities and challenges, how family-school partnerships can either enhance or deter these behaviors for the developing youth is detailed. The chapter ends with brief remarks summarizing the importance of family-school partnerships during adolescence.
FRAMING THE DEVELOPMENTAL TASKS OF ADOLESCENCE

Adolescence is a time of rapid development. These changes can present challenges and opportunities for the developing youth and typically include a preparation for learning adult roles, responsibilities, and behaviors. To prepare for these roles, one of the key developmental tasks of adolescence is to become more autonomous from authority figures such as parents, while remaining connected to them. According to systems theorists, for an adolescent to achieve healthy adjustment, he or she must individuate successfully from the family of origin. Individuation refers to a process in adolescence when individuals begin to separate themselves from their parents, develop their own identity, and take on new responsibilities (Garber & Little, 2001). Systems theorists argue that a sense of individuation is best fostered in a family climate that balances autonomy granting with connectedness (Perosa, Perosa, & Tam, 1996). The concept of autonomy refers to the ability of an individual to make personal decisions and to gain freedom from parents and other influences (Collins, Laurson, Mortensen, Luebker, & Ferreira, 1997), whereas connectedness refers to the level of attachment or closeness one feels toward the family. In short, for adolescents to individuate successfully and form their own identities, families must be able to balance their need to protect their children with their ability to allow them to make some mistakes.

Autonomy Granting and Connectedness from Family

Achieving a psychological sense of autonomy from one's parents is a multidimensional task that is accomplished gradually over the course of adolescence. Autonomy is the ability to regulate one's own behaviors, decisions, and actions without undue control from or dependence on one's parents (Steinberg, 1990). Autonomy does not reflect complete independence or alienation from one's family. Rather, it is a mutual process in which parents and children accept the adolescents' growing individuality. Adolescents who achieve a healthy sense of autonomy remain connected to their families and feel a sense of love and understanding. In addition, autonomy-supportive parents spend time with their adolescents, monitoring their daily lives, and providing them with opportunities to explore and master their environments (Grolnick, Benjet, Kurowski, & Apostoleris, 1997). Relatedness, or the need to feel securely connected to others, enables individuals to feel safe to explore their environment (Ryan, Deci, & Grolnick, 1995).

Research suggests that this sense of connection is fostered by an authoritative parenting style, which is marked by responsiveness, warmth, firmness and democracy, and ultimately associated with more positive educational outcomes than an authoritarian style, which is marked by strictness and unilateral parental decision making (Steinberg, Bradford, & Dornbusch, 1996). Monitoring is a specific aspect of parenting that represents a parent's attempts to know about an adolescent's life. This includes physical as well as cognitive and emotional monitoring. For example, when parents are aware of an adolescent's whereabouts, school problems, substance use and delinquency decrease, while social competence and good grades increase (Rodriguez, 2002). In addition, monitoring can foster identity achievement and prosocial behaviors as well as academic growth including school adjustment and engagement (Catsambis, 2001; Rankin & Quane, 2002).
Parenting styles and monitoring and their impact may, however, differ among boys and girls and ethnic groups (Jeynes, 2003). These variations may be due to developmental niches or person-environment fit. For low-income inner-city boys, school engagement was greater when parental monitoring was high; but for girls, school engagement depended on both high parental monitoring and high family cohesion (Annunziata, Hogue, Faw, & Liddell, 2006). In addition, strict limit-setting and monitoring might be more adaptive for families living in high-crime neighborhoods and facing racial discrimination (Leventhal & Brooks-Gunn, 2003). Thus, future work needs to take better account of the geographic, economic, gender, and ethnic differences within these relationships by explicitly considering family socioeconomic (SES) level and adolescent gender in research addressing the links between families and student competence.

This mutual interplay of family connectedness and individual autonomy is reflected in the concept of differentiation, which emerged from family systems theory (Bomar & Sabatelli, 1996). Adolescents must have opportunities to express their separateness within the boundaries of the family (Best, Hauser, & Allen, 1997). Adolescents who experience high levels of parental control and frequent exposure to parental conflict often lack a healthy sense of autonomy (Taylor & Oskay, 1995). On the other hand, connectedness to parents is associated with greater internalization of school-related regulations (Ryan, Stiller, & Lynch, 1994), can promote intrinsic motivation (Ryan & Deci, 2000a, 2000b), and positively affect the academic motivation of girls more than boys. The development of autonomy has also been linked to student competence. Students who are high in autonomy from the family tend to be more engaged in school, in extra-curricular activities, have higher academic performance, and stay in school until graduation (Hardre & Reeve, 2003; Lohman, Kaura, & Newman, 2007). However, it can also be the case that those adolescents who have more autonomy from the family are granted that independence because they are more competent. Future work should address this selection issue through longitudinal investigations of the link between family autonomy and student competence. In one longitudinal study of low-income students, the degree to which mothers encourage autonomous decision making in their 11-year-old children predicted whether children dropped out or completed high school and enrolled in college 7 years later (Tenenbaum, Porche, Snow, Tabors, & Ross, 2007). Students low in autonomy use more defensive styles of coping with failure, such as blaming others and minimizing the significance of failure (Conell & Wellborn, 1991).

Support for autonomy may be especially important during adolescence when students are experiencing several important changes such as puberty, establishing their independence and identity, and transitioning to middle school and high school. This establishment of autonomy requires independence of thoughts, emotions, and actions (Steinberg, 2005) that lead to becoming a self-sufficient adult. A strong sense of autonomy, independence, and self-determination promote healthy socio-cognitive development in early adolescence (Eccles et al., 1993). Autonomy also involves a psychological sense of confidence about one's unique point of view and an ability to express opinions and beliefs that may differ from those of one's parents (Herman, Dornbusch, Herron, & Herting, 1997). Families that are warm, supportive, and responsive tend to have adolescents with better school success and positive psychosocial outcomes.
including self-reliance, identity formation, higher grade point averages, and positive career-planning aspirations, as well as better physical health and lower rates of depression and delinquency (Pong, Hao, & Gardner, 2005).

**Autonomy Granting and Connectedness from School**

Similar to a family system, a school system must establish boundaries for the development of the individual within the school environment. Thus, just as a family strives to balance separateness and connectedness, a school system must also manage levels of separateness and connectedness for its maturing adolescent students. Undeniably, there is a rich literature on the social dimensions of the school environment and the impact these domains have on adolescents' psychosocial and academic adjustment. Autonomy-granting on the part of teachers, social support from classmates as well as school personnel, students’ engagement in school activities, and students’ perceptions of school climate have all been shown to be significantly related to adolescents’ academic and psychosocial well-being (Lohman et al., 2007; Roeser & Eccles, 1998). Specifically, adolescent problem behavior has been related to the level of autonomy that students feel they have in the classroom. In this chapter, we refer to *autonomy* at school as the ability of a student to make personal decisions as well as gain independence from teachers and school administrators.

On the other hand, substantial literature establishes the importance of being connected to one's school system. Students' feelings of belongingness or connectedness to their school have been shown to be positively associated with their motivation toward school, effort, level of participation, and eventual achievement, as well as the delay of their initial encounter with cigarettes, alcohol, marijuana, and sexual intercourse (Blum, McNeely, & Rinehart, 2002; Crosnoe, Erickson, & Dornbusch, 2002). Additional studies find that for some students, difficulties adjusting to a new school may be associated with feelings of alienation and lack of social acceptance or connectedness (Resnick, Harris, & Blum, 1993).

One opportunity in which students may become connected to schools is through their participation in extracurricular activities (for a comprehensive review see Feldman & Matjasko, 2005). The settings of extracurricular activities serve as a place to act out the developmental tasks of adolescence. It is believed that extracurricular activities offer a means to express and explore one's identity, generate social and human capital, and offer a challenging setting outside of academics. Adolescents form their identity by developing skills, discovering preferences, and associating themselves with others (Eccles & Barber, 1999; Youniss et al., 2002). Currently, the literature generally supports that there is a positive relationship between extracurricular activity participation and academic achievement (Eccles & Barber, 1999; Mahoney, Cairns, & Farmer, 2003; McNeal, 1998). While a considerable amount of research has considered the relationship between family or school characteristics and student competence, relatively few studies have brought the two together in order to understand how the family and school can work together to bolster student competence. Below, we define the nature of student competence and how schools and families can partner to enhance student success.
Bringing the Two Together: School-Family Partnerships during Adolescence

Considerable attention has addressed the role of achievement and academic functioning during adolescence and its links to lifelong challenges and opportunities during adulthood. A large portion of this literature has focused on academic problems including truancy, academic failure, and dropout rates. Alternatively, in this chapter, we address three areas of student academic competence, by addressing research related to students who: (a) are high achieving, (b) complete high school, and (c) plan for education or vocational work beyond high school. Throughout this review, we collectively refer to these three constructs as adolescent student competence. Family-school partnerships, or the extent to which families and schools are involved in the student's educational endeavors, are viewed as important contributors to student competence. Christenson (2004) defined family-school partnerships as shared goals and monitoring, constructive and collaborative relationships between families and schools, and a range of home- and school-based activities that engaged families in the educational life of their children. Fostering productive family-school partnerships during adolescence may be challenging given the emphasis on autonomy and individuation that characterizes this developmental period.

A major task of this chapter, therefore, is to understand the reciprocal influences of the school-family connection. The overlapping roles of the family and the school have not been clearly delineated in the past. In some cases, adolescents may be experiencing a developmental mismatch between separateness and connectedness in the family and school, and their developing needs. This lack of environmental congruence may create a state of tension for the developing adolescent. Indeed, the person-environment fit perspective (outlined below) emphasizes the need for the fit between the family's balance of separateness and connectedness and the developing adolescent's need for autonomy and connection at school (Eccles et al., 1993).

Similar to this person-environment fit theory, Bronfenbrenner (1979) introduced the concept of dynamic stability to convey the reciprocal relationship between persons and their environment. Links between one sector (i.e., the family) and another (i.e., school) need to be explored for the dynamic stability of ecological niches. In 1983, Epstein (1983) found that adolescents who experienced high decision-making opportunities in the family and the school system had the highest independence and achievement scores. Adolescents who had mismatched levels of decision-making opportunities in the family and school had lower achievement scores. Thus, adolescents who had more optimal development were experiencing communality or dynamic stability of ecological niches. More than a decade ago, Goodenow (1995) pointed out that future research needs to explore ways in which ecological systems support, reinforce, or undermine one another.

In sum, schools offer adolescents the opportunity to both explore their individuality and feel connected. While the literature is not clear about the precise nature of an autonomous school environment, participation in extracurricular activities presents one opportunity for adolescents to exercise choice and feel connected to schools. It may be this process that explains the link between participation and student competence. Future research should include other measures of autonomy and connection in schools such
as the extent to which students can make choices in terms of their course schedules, precise course-taking sequences, and the ability to leave campus during lunch breaks. Additional aspects of the school environments should also be tapped, for example if they are responsive, warm, firm, and take into account the developing needs of students for autonomy or if they are strict, nonaccommodating, authoritarian (e.g., zero tolerance laws) environments which can negate student competence. Furthermore, school connectedness should be conceptualized as a multidimensional construct that captures connectedness to teachers as well as a feeling of overall school spirit and pride. Below, we set the stage for our discussion of school-family considerations during adolescence by presenting our theoretical framework that considers the complex nature of adolescent development in context. As mentioned above, they include constructs from ecological systems theory, the risk and resiliency perspective, and person-environment fit.

SETTING THE THEORETICAL FRAMEWORK

Ecological systems theory, used in concert with a risk and resiliency perspective as well as the person-environment fit perspective, serves as a valuable overall framework for integrating the sociological, biological, and psychological literatures on adolescent student competence. Utilizing a combination of these three frameworks, we address both the direct and indirect effects of adolescent development and well-being on student competence and how family-school partnerships may foster these links.

The macro bioecological theory, characterized by Urie Bronfenbrenner (1979; Bronfenbrenner & Morris, 1998) details the development of adolescents within a set of overlapping multifaceted environmental systems that influence their development, including student competence. Ecological systems theory holds that both immediate and distal aspects of a child's surrounding environment interact and transact to mold development and that the child influences his or her experience of these settings as well. During adolescence, the family and the school environments are central developmental contexts and both have been shown to be significantly related to student competence (Lohman et al., 2007; Roeser & Eccles, 1998). Furthermore, adolescents' characteristics (e.g., pubertal status, autonomy, academic motivation) may interact with their environment in determining student competence. Thus, we address the developmental opportunities and challenges faced by adolescents as well as characteristics of two microsystems: the family and the school.

To frame characteristics of these two systems, a resiliency perspective (Luster & Small, 1994) is used to define system characteristics as protective or risk factors that are associated with adolescents' student competence. A resiliency approach suggests that there are several paths to which student competence can develop, and it is imperative to investigate multiple pathways because it is not likely that only one reason is contributing to academic functioning (i.e., equifinality). Moreover, integrating concepts from the person-environment fit perspective (Eccles et al., 1993), allows us to discuss the important relationship among adolescents, families, and schools and that one size does not fit all in terms of the optimal organization of the family and school ecologies that promote student competence. Rather, adolescent characteristics interact with the family and school contexts in determining student competence. Thus, ecological systems
theory is an ideal theoretical framework from which to guide this work because it not only includes the contextual levels surrounding a developing individual, but emphasizes the bidirectional processes by which the individual and particular contexts affect each other, such as the case with family-school partnerships.

Bronfenbrenner originally suggested that contextual levels or microsystems overlap each other and that, within a society, systems tend to be consistent (Epstein, 1983; Miller, 2002). Researchers, however, have noted that this is not always the case as systems may also vary in their degree of embeddedness with one another and are sometimes even at odds with each other (Sternberg & Grigorenko, 2001). Thus, an adolescent's developmental course may be dependent on whether systems are in synchrony or in dissynchrony (Mahoney & Bergman, 2002). We contend that the perspective of person-environment fit (Eccles et al., 1993) should also be used in studying synchrony across microsystems, including the congruence and overlap of families and schools on adolescents' student competence. Congruence or synchrony across environments may help foster student competence, while dissynchrony, incongruence or a mismatch in environments may hinder student competence (Goodenow, 1995; Lohman et al., 2007). For example, exploring this overlap rather than assuming that all contexts are in synchrony, such as the degree to which any risk or protective factor from either the family or school can compensate for a suboptimal fit in another context, better captures the idea of a holistic approach to studying adolescent student competence. Researchers can explore this overlap by taking an ecological approach (i.e., including multiple contexts) in inquiries regarding student competence during adolescence.

While research has addressed the unique impact both the family and school microsystems have on student competence, little work has addressed the interactions between the family and school contexts. Mahoney and colleagues (Mahoney & Bergman, 2002) have attempted to tackle such issues, proposing a holistic-interactionistic framework to studying individual adaptation. A more comprehensive and integrative approach such as this is needed; furthermore, it can be extended to assessing factors related to student competence. Below we consider several developmental opportunities and challenges of adolescence as well as key characteristics of the family and school environments that promote student competence. Based on this research, we will make recommendations for some promising avenues for school-family partnerships for each aspect of adolescent development. The majority of the work assessing student competence and its relationship to aspects of adolescent development draws from literature that is non-experimental in nature. As a result, causal statements about the link between families, schools, and student competence cannot be made. Where appropriate, findings from experimental research and those that are nationally representative or longitudinal in nature have been noted. A discussion of the importance of understanding the school-family partnership and how it may foster student growth and development follows.

DEVELOPMENTAL OPPORTUNITIES AND CHALLENGES OF ADOLESCENCE LINKED TO STUDENT COMPETENCE

Below, a brief overview of the primary developmental opportunities and challenges during adolescence, how each is linked to student competency, the relationship between...
schools and families and the developmental outcomes, and how schools and families might partner to promote student competence is provided. The developmental opportunities (or tasks) reviewed include: puberty and physical maturation; the development of abstract thinking abilities; peer group membership, and romantic relationships. Beyond these opportunities, there are also many behaviors and experiences that youth must limit or avoid that may have negative consequences for student competence. These may include but are not limited to alcohol and drug use, mental health problems, and externalizing problems. A final aspect that is tied to adolescents' academic competence is their personal motivation and their abilities to set goals and plan for their future beyond high school. We detail each of these as well.

**Puberty and Physical Maturation**

Middle childhood is marked by steady physical development. In contrast, adolescence is marked by rapid physical changes including a height spurt and increased muscle mass, maturation of the reproductive system, appearance of secondary sex characteristics, and the redistribution of body weight (Susman & Rogol, 2004). On average, puberty can last 1 to 6 years for girls and 2 to 5 years for boys. Once again, these rapid physical changes can present opportunities or challenges for the developing youth. Adapting to the physical, psychological, and social aspects of puberty requires an integration of biological, psychological, and social changes. In addition, how family members, teachers, and peers respond to these changes effects an adolescent's well being. Finally, depending on if these changes are perceived to be early, on time, or late in relation to their peers by the aforementioned groups can lead to challenges or opportunities for the developing youth.

The majority of the literature linking puberty and physical maturation to student competence has focused on the psychosocial manifestations of puberty. This relationship received attention in the 1960s and 1970s and has received sparse attention since then. The literature concerning the timing of puberty and its relationship to student competence has varied over the years with more recent work opposing past research findings. Indeed, early pubertal maturation has been viewed as a challenge or risk factor for both girls and boys' student competence. Early-maturing boys were shown to have experienced more positive psychosocial consequences (Richards & Larson, 1993) and were more likely to be involved in school activities by the 10th grade (Blyth et al., 1981). In addition, late matures had the highest grades in comparison to early- and on-time matures (Dubas, Graber, & Petersen, 1991). In contrast, boys who matured later had negative psychosocial outcomes. More recent work has shown the opposite; with early-maturing boys having more internalizing and externalizing behaviors as well as more problems in school (Ge, Conger, & Elder, 2001; Wichstrom, 2001). Additional work has shown that early-maturing girls experience higher levels of conflict at home and more internalizing behaviors (Williams & Currie, 2000), as well as have lower grades and lower scores on academic achievement tests. (Blyth et al., 1981). Longitudinal work from nationally representative research shows that early maturation for girls predicted lower grade point averages and a higher probability of course failure at the start of high school. Because of this initial failure during the high school
transition, it also predicted their probability of dropping out of high school, and among those who graduated, their grade point average at the end of high school (Cavanagh, Riegle-Crumb, & Crosnoe, 2007).

Relatively few studies have provided insights on the extent to which the family and school environments can offset the risks that early or late maturation have on student competence. Off-time maturation may result in feelings of asynchrony and alienation with one's peers in the school context. Those experiencing this asynchrony may, then, feel less connected with the school environment. Thus, opportunities for positive engagement with the school environment may be especially critical for early or late maturing adolescents. Research investigating the relationship between off-time maturation, various aspects of school engagement (e.g., activity participation, opportunities for autonomy, student-teacher relationships), and student competence would reveal how individual differences in maturational status and school characteristics promote or hinder success. Furthermore, in taking an ecological approach, positive and supportive family relationships may offset any deficits within the school environment to promote student competence. Families that are sensitive to the needs of their early or late-maturing adolescents while supporting their engagement with their academic work may promote their academic success.

**Obesity** Interest in the relationship between physical maturation and academic achievement has recently intensified in the face of increasing rates of obesity during adolescence in the United States. Evidence for the epidemic of childhood obesity in the United States is clearly shown by the three-fold increase in the prevalence of overweight for children over the last three decades (Anderson & Butcher, 2006) and current prevalence rates (17.1% overweight and another 16.5% at risk of overweight; Ogden et al., 2006). These high prevalence rates, along with the adverse physical, psychological, and social consequences of being overweight on children that extend into adulthood (Gunnell, Frankel, Nanchahal, Peters, & Davey Smith, 1998) which, in turn, may lead to a reduced life expectancy (Fontaine, Redden, Wang, Westfall, & Allison, 2003), make childhood obesity one of the most important medical issues among youth today (Hedley et al., 2004). Most of this research has linked adolescent obesity to psychological and physical health outcomes, but recent studies have shown indirect as well as direct relationships between obesity and student competence. Falkner et al. (2001) found that 12% of obese adolescent girls believe that they are below average students; 27% reported being held back a grade; and, 35% expected not to finish college. For boys, being obese or underweight posed academic challenges. Twenty-seven percent of underweight boys and 27% of obese boys reported being held back a grade. In addition, 37% of underweight boys and 33% of obese boys expected not to finish college. Furthermore, obesity during adolescence carries long-term consequences for academic and economic success. Using the National Longitudinal Survey of Youth (NLSY), Gortmaker, Must, Perrin, Sobol, and Dietz (1993) found that women who were obese during late adolescence and young adulthood completed fewer years of education, had lower family income, and had lower marriage rates during adulthood compared to those women who were not obese at the same ages.

Utilizing data from the National Study of Adolescent Health (Addhealth), Crosnoe
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and Muller (2004) showed that being overweight or obese were linked to poor academic achievement over time. In addition, this relationship was stronger in schools with more romantic involvement among adolescents and in schools with lower average body size among the students than in schools where the opposite was true. This argues for the understanding of a student's person-environment fit when assessing these links. Other research has considered the important mediators of the link between obesity and low achievement. Specifically, Taras and Potts-Datema (2005) found that obesity is linked to anxiety and low self-esteem and that this explained the link between obesity and low student competence. Therefore, it is important to consider other mediators of obesity and student competence so that the families and schools can better respond to the needs of obese adolescents. For example, literature has shown that eating breakfast increases attention in the classroom and ultimately student competence (Berkey, Rockett, Gillman, Field, & Colditz, 2003). However, if an adolescent is too large to sit comfortably in a chair, their anxiety may be heightened, their attention decreased, and, ultimately, may experience lower student competence. Research suggests that it is important to attend to these mediating processes associated with these relationships, including adolescents’ emotions. Indeed, positive interpersonal relationships have been found to decrease adolescent anxiety (Graber, 2004).

As outlined above, multiple opportunities exist for positive relationships in both the school and family contexts. Positive interpersonal relationships in the school or family context may be enough to offset the academic risks associated with adolescent obesity to increase short-term and long-term academic and economic success. However, mental health issues may also need to be addressed in order to bolster the academic competence of obese adolescents.

Sleep Loss In addition to the physical maturation and pubertal changes discussed above, adolescence also brings changes in sleep patterns. Adolescents would prefer to sleep about 9 hours a day (Petta, Carskadon, & Dement, 1984). However, this sleep varies in depth and duration compared to childhood, with less time spent in deep sleep (Dahl & Carskadon, 1995). In addition, adolescents are more likely to go to bed later in the evening due to work, homework, entertainment, or socialization with friends and romantic partners. Thus, adolescents get less sleep at the same time when more demands are being placed on them; they are expected to be at school earlier; and changes in their natural biorhythms make them want to sleep in more. These shifts are tied to pubertal status: those teens that are in a more advanced pubertal status show a greater tendency toward this delay and a greater difference between weekend and weekday sleep (Laberge et al., 2001). Two recent reviews of this research (Yan & Slagle, 2007; Wolkfson & Carskadon, 2003) show that American adolescents do not get enough sleep and that this lack of sleep impairs adolescents’ learning and development including their academic performance from middle school through the college years. While researchers propose that this relationship could be countered by delaying school start time, it is not clear whether student academic achievement will improve along with a shift in school scheduling.

As in the research on obesity, several studies have investigated the mediators between sleep loss and academic achievement (Allgoewer, Wardle, & Steptoe, 2001; Carskadon,
Carskadon (1999) found that sleep loss was related to depressive symptoms and it may be the depressed mood that is related to lowered achievement. It can also be the case that lowered achievement can lead to depressive symptoms and sleep loss as well. Fredriksen, Rhodes, Reddy, and Way (2004) investigated sleep loss during the transition from middle childhood to adolescence. In their longitudinal study, they found that sleep loss was related to decreasing self-esteem and achievement over time. Furthermore, the decrease in self-esteem explained the link between lack of sleep and low grades.

This literature suggests ways that families and schools can partner in order to increase student competence. First, families can promote consistency between weekday and weekend sleep schedules, which may help to decrease the amount of sleep loss that some adolescents can experience during the week. However, this may be a challenging task for families in the face of adolescents’ increasing autonomy from parental control. Because of this, schools may want to experiment with altering start times so that adolescents can get more rest during the week. When adolescents experience inadequate sleep, both families and schools can address the psychological impact of sleep loss by addressing adolescent depressive symptoms. Maintaining synchronous supportive relationships, while providing opportunities for autonomy in both the family and school contexts, may help to diminish the negative consequences of sleep loss on student competence during adolescence.

**Cognitive and Brain Development**

Accompanied by the rapid physical maturation of puberty during adolescence is the rapid development of cognitive activity. Youth begin to have greater self-reflection, become more planful and focused, and are able to hypothesize and think about several strategies or outcomes for these hypotheses simultaneously rather than focusing on just one domain or issue at a time (Keating, 2004). Increases in speed, efficiency, and capacity of information storage and retrieval also occurs (Kwon & Lawson, 2000). The most widely known construct related to these rapid cognitive changes is formal operational thought or the ability to raise hypotheses to explain an event, and then to follow the logic that a particular hypothesis implies (Piaget, 1972).

During adolescence, new and more intricate thoughts become possible. These transformations are accompanied by neurological changes in the brain—prefrontal cortex developments, the continuation of myelination of nerve fibers, and the selective reduction of neurological pathways or “synaptic pruning” (Diamond, 2002; Johnson, 2001). These changes present new opportunities for adolescent cognition including the ability to reject irrelevant information, formulate complex hypothetical arguments, organize an approach to a complex task, and follow a sequence of steps to task completion (Davies & Rose, 1999).

However, the development of formal operational thought has been criticized. In general, according to Piaget, formal operational reasoning is viewed as the final stage in the development of logical thought. Recent work claims that formal operational thought is not the end point for cognitive development during the lifespan and that post-formal reasoning in adulthood often occurs, marked by cognitions that are fluid and based on the context or situation at hand (Torbert, 1994). In addition, many adolescents and
adults never reach formal operational thinking or at least use it inconsistently (Brady-
metz, 1999). Regardless, most cognitive scientists agree that adolescents do become
more self-reflective in their thought processes and are able to organize, hypothesize,
and evaluate propositions better than in middle childhood (Keating, 2004).

These changes in cognitive thought processes and neurological development have
implications for student competence during adolescence. Surprisingly, little work has
directly assessed the link between the development of abstract reasoning and student
competence (see Chapell & Overton, 2002, for an exception). Chapell and Overton
(2002) investigated the development of reasoning for African Americans during
adolescence. Reasoning “involves inference, the process where propositions known as
premises that have been accepted provide the evidence for arriving at and accepting
further propositions known as conclusions” (Chapell & Overton, 2002, p. 296). They
found an increase in reasoning and that low-SES students scored lower on reasoning
compared to high-SES adolescents. Moreover, research has found that aspects of the
school and family contexts are related to cognition. Parenting styles and test anxiety are
related to adolescent cognitive performance (Chapell & Overton, 1998).

Furthermore, work has pointed to the need for schools to provide a stimulating
context that encourages advanced cognitive thinking characteristic of abstract rea-
soning (Lee & Freire, 2003). However, not all schools promote advanced cognitive
development. This is where person-environment fit theory becomes important. To
take full advantage of these cognitive opportunities in adolescence, schools must cre-
ate environments that fit with the adolescent’s development at the time, such as that
described by Keating (1990):

Students need to be engaged with meaningful material; training of thinking skills
must be embedded in a knowledge of subject matter, for acquisition of isolated
content knowledge is likely to be unproductive; serious engagement with real
problems has to occur in depth and over time; students need experiences that lead
to placing a high value on critical thinking, to acquiring it as a disposition, not just
as a skill; and many of these factors occur most readily, and perhaps exclusively,
when students have the opportunity for real, ongoing discourse with teachers who
have reasonably expert command of the material to be taught. (p. 77)

The process that Keating described may encourage the development of cognition by
increasing self-esteem in the adolescent’s ability to handle complex academic tasks.
Meaningful engagement with academic material may also decrease test-taking anxiety,
which may increase student achievement. Future research should investigate the links
between student engagement with academic material, reasoning ability, anxiety, and
achievement. Is it the case that anxiety lessens student engagement with academic mate-
rial or vice versa? What instructional strategies work when this occurs? Understanding
those links will provide a solid foundation for unveiling some promising avenues for
school-family partnerships to enhance cognitive ability and student competence. Chapell
and Overton’s (1998) work suggested that families play an important role in the devel-
opment of reasoning. Hence, parents can enhance school and teacher efforts by also
supporting a meaningful engagement with their schoolwork and encouraging critical
thinking skills by having ongoing discourse about matters inside and outside of their academic work. Furthermore, schools can make efforts to reduce test-taking anxiety among students by encouraging consistent discourse with high quality teachers.

**Peer Relations**

During adolescence, peer relationships change in composition and importance. Belonging to a group and developing a sense of group identity with peers becomes particularly salient. Beginning in early adolescence, the peer group becomes more structured and organized than it was previously (Newman & Newman, 2001). The development of cliques (e.g., small groups of 5 to 10 friends that are often transient) and crowds (e.g., large groups characterized by specific behaviors or identity such as involvement in sports; Brown, 2004) occurs. Crowd labels typically have distinct profiles with respect to the youths' academic achievement levels, educational goals, use of alcohol and drugs, involvement in delinquent acts including violence, and involvement in school activities. While in racially diverse schools, it is not uncommon for students to identify crowds based on ethnic categories. For example, in a racially diverse sample of over 700 middle-school and high-school students, some of the most common crowds mentioned were floaters (belonging to more than one group), nice or regulars, populars, middles (related to income), jocks, nerds/unpopulars, preps, skate-boarders, and misfits/alternatives (Lohman, 2000). However, roughly 20% of the students in that same study said they did not belong to any group. In an additional study of over 3,000 high school students, nine crowd types were identified: jocks, populars, popular nice, average-normal, brains, partiers, druggies, loners, and nerds (Durbin, Darling, Steinberg, & Brown, 1993).

Belonging to one of these peer groups may foster a healthy sense of self as well as the skills necessary to become an active participant in adulthood. Peer group membership allows adolescents to self-reflect about, "Who am I, and with whom do I belong?" (Newman, Lohman, Newman, 2007). During this self-reflective process, the person-environment fit perspective becomes salient as youth must identify the fit or lack of fit between their personal beliefs and interests and those of their peer group. Resolving these challenges can lead to a healthy sense of group membership that has been linked to positive academic and psychosocial outcomes.

A healthy sense of peer group membership has been linked to adolescent student competence, depending on who the peers are. Several studies suggest that peers are particularly influential on adolescents' day-to-day school activities such as doing homework and the effort put forth during class (Midgely & Urdan, 1995; Steinberg et al., 1996). In addition, peer group membership provides the opportunity for accelerating academic competence, when peers earn higher grades and have higher educational aspirations such as continuing their education beyond high school (Steinberg et al., 1996). For African Americans, peer support was related to higher math achievement test scores among adolescents facing multiple risks over time (Gutman, Sameroff, & Eccles, 2002). Also, friendships of higher quality exhibit better psychosocial adjustment and academic achievement in younger children (Berndt, Hawkins, & Jiao, 1999). However, societal expectations and many research studies emphasize that peer group membership may be a challenge or a risk factor for adolescent student competence. For
example, students who focus solely on peers or belong to peer groups that do not focus on academic competence often perform worse in school (Bishop, Bishop, Gelbwasser, Green, & Zuckerman, 2003).

The risk and resiliency perspective lends some insight into how schools and families can partner in the face of peers to promote student competence. Peer group membership is often a way for adolescents to exercise their autonomy and express their identity (Newman et al., 2007). Because peer groups are often drawn from shared interests, schools can promote prosocial peer affiliations by providing multiple opportunities for positive activity involvement with adult supervision/monitoring, particularly for adolescents who are at-risk for school failure who are more likely to affiliate with antisocial peers (Feldman & Matjasko, 2005). In turn, parents can encourage participation in such activities. For example, if adolescents enjoy music over sports, families and schools could offer space for youth to participate in these interests. Moreover, when adolescents are affiliated with antisocial or low-achieving peer groups, parents and schools may target their efforts at decreasing the amount of unsupervised time that such peers have together. After-school programs have been found to decrease this unsupervised time and increase achievement among at-risk adolescents (Granger, 2008). However, this may be difficult for families and schools with limited economic resources given that extracurriculars are often cut due to lack of sufficient funds. Families and schools should understand that participation in these events is not just for the adolescent’s enjoyment, but these tasks serve as a key protective factor and stimulus for the adolescent’s developing autonomy. Indeed, more research is needed on the ways that families and schools can offset the risks of negative peer associations on student competence and foster healthy ones.

**Romantic and Sexual Relationships**

Accompanied by the rapid changes of physical development and the surge of importance in peer relationships, interest and participation in romantic relationships also increases during adolescence. Most youth become involved in dating, emotional relationships, and initiate sexual experiences during this time period (Levesque, 1993). In addition, these relationships become increasingly intimate and meet four needs of the developing youth: affiliation, attachment, care giving, and sexual gratification (Furman & Wehner, 1997). A large majority of the work addressing romantic relationships in adolescence has focused on the transition into sexual debut. By the end of high school, over 1 in every 2 teens has had intercourse, one-quarter to one-third of adolescents report having multiple partners, and over one-third of adolescents report having sexual intercourse without condoms (Snyder, 2006).

There has been a recent surge in research on understanding romantic relationships during adolescence beyond sexual relations. It has been shown that adolescent romantic relationships tend to be short in duration (Furman & Shaffer, 2003). Research has also highlighted adolescent’s romantic relationships association with psychological functioning (Maccoby, 1990) and intimate relationships in adulthood (Bryant, 2006). Gender and race differences in the quality of these relationships have been shown (Murry, Hurt, Kogan, & Luo, 2006). For example, Maccoby (1990) found that adolescent romantic relationships put some adolescent girls at-risk for depression while Murry et
al. (2006) found that boys reported more negative experiences in romantic relationships compared to girls. Furthermore, healthy family relationships and monitoring were positive predictors of romantic relationship quality for girls. For both boys and girls, self-esteem significantly predicted romantic relationship quality. Therefore, families may be particularly important in buffering any of the negative experiences that girls have in romantic relationships.

Very little work has directly linked the associations between romantic relationships and student competence. Several studies have investigated the link between same-sex attraction, stigmatization, and student achievement (e.g., Pearson, Muller, & Wilkinson, 2007). In this line of work, adolescents with same-sex attractions report feeling stigmatized by their peers within the school context. This stigmatization acts as a psychological stressor resulting in a detachment from schools and lower student achievement. Another line of work has focused on the challenge or risk of bearing a child during the teen years, especially for girls. Teen pregnancy has been linked to subsequent poverty (Snyder & McLaughlin, 2004). In addition, many youth who grow up in high poverty neighborhoods are at greater risk for teenage pregnancy and dropping out of school, both of which contribute to continuing to live in poverty during adulthood (Hao & Cherlin, 2004). However, there is large variation regarding the consequences of teenage pregnancy for the developing youth and child.

School and family support for academics and school completion can be key factors in the success of teen mothers (Coley & Chase-Lansdale, 1998; Manlove, 1998). When schools offer an environment that reduces the stigma of teen parenthood through alternative programs that provide the availability of child care, then teen mothers are more likely to re-engage with their academics and complete high school (Allen, Philiber, Herrling, & Kuperminc, 1997). Families and parents also play a key role in this process by providing child care assistance so that teen mothers can complete the necessary school tasks and homework in order to be successful.

Apart from the work on teenage parenthood, little research has been conducted on ways that families and schools can support adolescents when they are navigating the world of romantic relationships. Studies have suggested that adolescents have varied experiences with romance and that the family and school contexts can either exacerbate or mitigate these experiences. While girls have more positive experiences with romantic relationships, they are particularly vulnerable to the intersection between the quality of their relational experiences in the family and with their romantic partners. Families who can foster and maintain a supportive relationship with adolescent girls will reduce the likelihood that they will experience depressive symptoms that are associated with romantic relationships. On the other hand, the school context can be particularly difficult for adolescents with same-sex attractions. This suggests that schools can be instrumental to the academic success of these adolescents by sending messages about inclusivity by not tolerating student discrimination based on sexual preference. The schools efforts may further be enhanced by acceptance and support in the family context. Future research should investigate the interplay between support and acceptance in both contexts and their relationship to student competence for adolescents of all sexual orientations. Does support in one context offset stress in another? Is the family support particularly important in offsetting any relational stressors? Questions such as these should be ad-
dressed in future work on the relationship between romantic relationships, families, schools, and student competence.

**Alcohol and Drug Use**

During adolescence, youth begin to experiment with alcohol and drugs. The numbers of youth who have tried alcohol or drugs increases during adolescence. For example, slightly over one-third (37%) of teens have tried alcohol in eighth grade, while 14% have been drunk at least once. By the 12th grade, those numbers have double and tripled, respectively; 70% of high school seniors had tried alcohol and 48% have gotten drunk (Johnston, O’Malley, Bachman, & Schllenberg, 2004). By the end of high school, one-half of all adolescents have tried an illegal drug (Johnston et al., 2004). Some experimentation with drugs and alcohol is seen as a normative part of adolescence, yet regular or excessive use can be a risk factor for poor psychosocial and academic functioning, especially when it begins at young ages (Iannotti & Bush, 1992).

Regular substance use during adolescence has been associated with a false sense of autonomy that may impair the adolescents’ ability to navigate their key developmental tasks and undermine the establishment of mature relationships that extends into young adulthood (Baumrind & Moselle, 1985). Furthermore, Chassin, Pitts, and DeLucia (1999) found that adolescents who used illegal drugs were less autonomous and report less involvement in positive activities during young adulthood. Heavy drinking during adolescence was particularly detrimental to autonomy and positive activity involvement during young adulthood. Individual characteristics such as impulsivity and sensation-seeking have also been linked to substance use during adolescence (Leigh & Stall, 1993).

Adolescent alcohol and drug use are also related to lower student competence. Newcomb and Bentler (1988) outlined several pathways through which drug and alcohol use affects adolescent academics. First, adolescent substance use may impair the adolescent’s ability to focus. This lack of focus may affect their ability to complete homework, study for tests, and retain material. Given the temporary nature of impairment due to substances, adolescent use may only affect student competence if it is regular and persists over time. Jessor, Donovan, and Costa (1991) found that adolescent substance use was detrimental only if it persisted into young adulthood.

Research has demonstrated that the school and family context is linked to adolescent substance use. For example, extracurricular activity participation has been associated with lower rates of substance use among adolescents (e.g., Eccles & Barber, 1999). However, there are key gender differences in the link between activity participation and substance use. Eccles and Barber (1999) found that boys involved in performing arts were less likely to drink alcohol and that male athletes reported the highest rates of substance use. Research on the family context and adolescent substance use have highlighted the importance of parent characteristics and parent-adolescent relationships (Brook, Brook, Gordon, Whiteman, & Cohen, 1990; Chassin et al., 1999). Parental alcoholism is a strong predictor of adolescent substance use patterns. Furthermore, parental alcoholism is also strongly related to the quality of the parent-adolescent relationship. Adolescents with alcoholic parents are more likely to have conflicted and
strained relationships with them (Brook et al., 1990). These conflictual relationships are linked to adolescent depression and poor school performance.

Thus, when adolescents are facing difficult family circumstances in the form of parental alcoholism and family conflict, the school has an opportunity to provide positive experiences for adolescents—either through positive student-teacher relationships or activity involvement. However, both schools and families should be aware that activity participation does not necessarily diminish the likelihood that adolescents will use substances. In actuality, it may be necessary to monitor the behaviors of male athletes more closely given the higher rate of substance use among that population. Furthermore, families and schools should recognize that experimentation with substances can be a normative part of adolescence but regular or excessive use is not. When adults in both contexts are connected to the adolescents, then they may be more likely to recognize when changes in mood or behavior occur—a signal that the adolescent may be using substances—and intervene before substance use becomes a regular feature in the adolescent's life. Consistent and clear communication between families and schools is necessary in order to prevent the transition from experimentation to routine substance use.

**Internalizing Problems**

Adolescence is often seen as a period of emotional upheaval including moodiness, outbursts, and emotional rollercoaster rides. However, research has shown that this emotional variability was not found to increase with age (Larson & Lampman-Petraitis, 1989). During this time frame, adolescents must be able to self-reflect and acknowledge these shifts in emotions, as well as learn how to manage these emotional expressions (Hoeksma, Oosterlaan, & Schipper, 2004). However, approximately 5% to 10% of youth may be unable to manage these emotions and internalizing or mental health problems may occur.

One internalizing problem that has received considerable attention is depression (Graber, 2004). Genetic dispositions in combination with environments that may be stressful or rejecting may place adolescent girls and boys at risk for depression (Tomarken, Dichter, Garber, & Simien, 2004). Depression may range from depressed mood to major depressive disorders. These internalizing behaviors increase during adolescence with a peak at about ages 17 or 18 (Petersen et al., 1993). While these behaviors increase over time for both boys and girls, no gender differences in depression are generally noted until postpuberty with females having more mental health problems (Crawford, Cohen, Midlarsky, & Brook, 2001).

Feelings of depression are a major challenge. Depression and depressive symptoms have been linked to adolescent drug and alcohol use as well as suicide or suicidal ideations (Brook, Cohen, & Brook, 1998). In addition, depression may lead to lower student competence (and vice versa). Research has demonstrated that lower student competence is related to changes in anxiety and depression for adolescents. Increases in student competence have also been linked to increases in emotional well-being over time (Maughan, Rowe, Loeber, & Stouthamer-Loeber, 2003). Furthermore, adolescents who meet the diagnostic criteria for depressive and anxiety disorders are especially at-risk for academic difficulties (Kovacs & Devlin, 1998). It is hypothesized that depression
and anxiety interferes with the ability to sustain one's attention for a long enough period of time in order to retain the material that is integral for academic success. In sum, research has demonstrated a bidirectional relationship between student competence and adolescent depression and that those individuals with diagnosable depressive disorders are particularly at-risk for school failure.

In accord with the person-environment fit perspective, this research suggests that when academic material is aimed at the student's competency, the student can experience boosts in affective functioning that can increase with continuing positive experiences over time (Masten et al., 2005). The structure of the family and school environments is crucial in this process. First, for schools, differentiated instruction is a way to tailor the educational program in order to meet the adolescent's learning needs. By gauging the curriculum to student strengths and deficits, differentiated instruction has been shown to be effective at increasing student achievement (Fuchs, Fuchs, Hamlett, Phillips, & Bentz, 1994). As discussed above, this success can serve to boost self-esteem and confidence in one's academic abilities. Furthermore, schools can target psychosocial support to those who meet the diagnostic criteria for depressive disorders in order to increase student competence. Second, for families, it has been shown that coercive and conflictual parent-adolescent interactions is linked to adolescent depressive symptoms (Zahn-Waxler, Klimes-Dougan, & Slattery, 2000). Thus, it is critical that families devise strategies to diminish the level of conflict and coercion in their day-to-day interactions. Furthermore, families can partner with schools in creating a positive learning environment within the home so that adolescents can complete schoolwork in a place free of interruption and outside distractions. In the case of adolescents who are diagnosed with a depressive disorder, families can advocate for additional school resources (in the form of any counseling or intervention) to alleviate internalizing symptoms so that students can succeed in their academic endeavors.

**Externalizing Problems**

While internalizing problems deal with the adolescent's difficulty in regulating their emotions, externalizing behaviors deal with adolescent's difficulty regulating one's impulses. Delinquency is an example of externalizing problems that has received considerable attention during adolescence. Delinquent offenses are actions for which an adult could be prosecuted as well as such acts as truancy, or running away. Delinquent activity has been shown to increase during adolescence and has been linked with a variety of other problem behaviors including substance use, truancy, and relationship problems (Ellickson, Saner, & McGuigan, 1997). However, adolescents who engage in antisocial activity are not homogeneous. Two distinct groups of adolescent offenders have been identified in the literature: life course persistent and adolescent-limited offenders.

These two groups are differentiated by the age of first offense, the nature of their crimes, violent or non-violent, whether there offending is chronic or transient, and their long-term developmental trajectories. Life course persistent offenders (LCPOs), also known as early starters, chronic offenders, career criminals, or early onset-persistent offenders are characterized by the violent and drug related crimes they commit, including violence against women and children (Moffitt, Caspi, Harrington, & Milne, 2002).
LCPOs begin offending in childhood and their antisocial behavior is stable across age and situation (Moffitt & Caspi, 2001). They are characteristically male, with the ratio of male to female life course persistent offenders being 10 to 1 (Moffitt & Caspi, 2001). Typically, LCPOs also display neurophysiological deficits such as impulsivity and inattentiveness (i.e., a symptom of Attention Deficit Disorder), and these deficits remain throughout their life. Later in life, substance dependence, financial and work problems are exhibited (Donnellan, Ge, & Wenk, 2000; Moffitt & Caspi, 2001; Moffitt et al., 2002). Moffitt (1997) theorized these neuropsychological deficits interact with individuals’ environments to reinforce and worsen anti-social behavior. For example, LCPOs with little parental supervision and guidance have even more opportunities to offend than those with more supervision. They continue offending into adulthood because they fail to learn prosocial alternatives to antisocial behavior, have reputations as criminals, and because the decisions they made earlier have closed positive life pathways. Similarly, LCPOs in restrictive school environments may never have the socialization experiences necessary to learn alternative behaviors.

On the other hand, adolescent limited offenders (ALOs), also known as late starters and transitory delinquents, are likely to commit nonviolent offenses, such as property offenses and substance abuse (Moffitt et al., 2002). Adolescent limited offending is discontinuous across time and situations, typically increasing as the adolescent approaches puberty and decreasing in late adolescence and early adulthood (Moffitt, 1997). In contrast to LCPO’s (who have a male to female ratio of 10 to 1), the ratio of male to female adolescent-limited offenders is much smaller—1.5 to 1 (Moffitt & Caspi, 2001). ALOs tend to engage in delinquent behaviors with their peers (Jeglum-Bartusch, Lynam, Moffitt, & Silva, 1997), but, at the same time, may obey school and family rules (Moffitt, 1997). Therefore, effective parenting does little to alter the behavior of ALOs. When these adolescents reach adulthood, they cease offending because the costs of continued offending, such as arrests, fines, and disapproval of family, outweigh the benefits, which were to prove maturity and gain autonomy (Moffitt, 1997). In general, by age 26 the ALOs have completed high school, but not post-secondary education, and are exhibiting both mental health and financial problems (Moffitt & Caspi, 2001; Moffitt et al., 2002).

According to the person-environment fit perspective, school policies can help to diminish adolescent offending trajectories when they work to fit these students’ needs. Because there are two different types of adolescent offenders, each with different developmental histories, the student needs of offenders are probably not uniform. For example, disciplinary policies may prevent adolescent-limited offenders from committing delinquent acts in school by threatening them with punishment because this group typically obeys school and family rules and offends with peers. But these same policies that are restrictive and punitive may not help the more troubled life-course persistent offenders because even if the policies create a safer environment, the policies do not help change the aggressive cognitive and behavioral patterns of these youth. Instead, these policies may threaten aggressive youth and increase their aggressive behavior. Schools and families must understand that these behaviors may be a reaction to their developing needs for autonomy in an over controlling environment. This is not to say that rules do not have their place in deterring externalizing behaviors, it is to say that
schools and families should note the possibility that these offenses are manifestations in developmental asynchrony for the youth either within or across both the family and school environments.

Adolescence and Beyond: Identity Development via Goal Planning, Career Choice, and Academic Motivation

Although the theme of identity development is often conceptualized within the framework of the college experience and the transition to the workforce, or for those youth who are 18- to 24-years old, identity begins at much younger ages. For example, societal expectations of parents, teachers, and peers play in to an adolescent’s decisions to attend college or go directly to work following high school graduations. Today, in the United States, nearly 2 in every 3 youth attend college following high school graduation (U.S. Census Bureau, 2003). Unfortunately, a college education is not attained easily by all youth: 1 in 3 youth go directly to work, join the military, or enter technical training programs. These adolescents are often low-income, ethnic minority, and immigrant youth who fall behind their more economically advantaged peers when it comes to enrolling in college courses (Fox, Connolly, & Snyder, 2006). Ten years after high school graduation, 25% of these young adults make less than $16,000 per year (Halperin, 1998).

Regardless if adolescents go to college or begin to work, youth must begin to formulate a sense of their own identities as well as goals that must be set and met to achieve that identity. Indeed, many adolescents begin to work during the teenage years. The majority of this work is marked by minimally skilled jobs with high turnover, low pay, little decision-making responsibility, and little stimulation of skill development. In 2002, 47% of 16- to 19-year-olds were in the labor force, and 16% were unemployed, meaning that they were recently fired or were unsuccessful in looking for work during the preceding four weeks (U.S. Census Bureau, 2003). The literature has revealed contradictory findings regarding adolescent work and its impact on adolescent functioning. Some find that adolescents who work long hours in stressful jobs are more likely to evidence increased cigarette smoking, marijuana and alcohol use, truancy, and poor academic performance in school (Steinberg & Dornbusch, 1991). However, not all work during high school leads to these negative outcomes. When adolescents work under 20 hours a week and their job involves skill improvement related to career development, they have higher levels of well-being, academic achievement, and less involvement in problem behaviors (Mortimer & Johnson, 1999).

Career choice reflects a central component of the youth’s emerging identity. There is ample evidence that familial, societal and socioeconomic conditions are major factors influencing adolescent career making decisions. High schools, colleges, and families urge young people to make career decisions as early as possible. Parents’ encouragement and discussions about school and higher education promote adolescents’ college aspirations and preparation (Catsambis, 2001). Parent discussions with youth about educational issues are associated with greater likelihood of enrolling in college, although the degree of benefit differs by ethnic/racial group as well as by immigration generational status (McCarron & Inkelas, 2006). When parents encourage college enrollment and youth perceive parents’ interest in their school success, youth sign up for academic tracks in
high school associated with college access, participate in out-of-school time programs
that may prepare students for college environments and develop aspirations to attend
college (Swail, Cabrera, & Lee, 2004). However, adolescents report that individual
factors—such as abilities, attitudes, and expectations—most strongly affect their career
decision making and downplay the impact of familial, societal, and socioeconomic
factors (O’Neil et al., 1980).

We address the specific individual or self-selection factor of academic motivation
which plays a particularly crucial role in goal planning and career choice during the
adolescent years. Unfortunately, motivation changes drastically from elementary school
to high school, and, many times, it is not in a direction that is optimal for preparation
for young adult roles. In general, both competency beliefs and academic values decline
from elementary school through high school (Wigfield & Eccles, 2000; Wigfield et al.,
1997). Specifically, during the preschool and early elementary years, students have an
optimistic view of their ability and define it broadly in terms of characteristics such as
social behavior, conduct, work habits, and effort (Eccles, Roeser, Wigfield, & Freedman-
Doan, 1999; Wigfield, Eccles, & Pintrich, 1996). The largest changes regarding these
views are seen during the transition to middle school when students begin to use norm-
ative criteria to judge their ability (Feldlaufer, Midgley, & Eccles, 1988) and tend to
view ability more as a stable, internal trait and less related to effort (Dweck, 2002). They
also believe that ability is a stable trait that is task specific. For example, if students put
in a great deal of effort to accomplish a task and others complete a task with less effort,
the implication is that they have lower ability (Dweck & Sarich, 1999). In addition, as
students move from elementary to middle school, their desire for easy work increases.
This suggests that students may be adopting a work-avoidance goal orientation (Eccles,
Wigfield, & Schiefele, 1998). Thus during high school, adolescents have more negative
attributions, and beliefs about their competency and academic values.

Furthermore, as students progress from elementary through high school, their self-
worth increasingly depends more on their ability to achieve competitively (Harari &
Covington, 1981). Extrinsic rewards for learning, such as good grades and performance
on standardized tests, are symbols of success that maintain one's self-worth. However,
because success is defined by comparing one's performance to others, the self-worth
of some students may be threatened (Stipek, 2002). The No Child Left Behind (NCLB)
Act of 2001 has implications for students' self-worth and their resulting motivation.
NCLB mandates that states set proficiency goals in reading and mathematics and to
assess progress toward meeting proficiency goals by testing students in grades three
through eight annually and testing students in high school once. To ensure that no
group is "left behind," states must document proficiency levels of students from various
groups: socioeconomic status, race, ethnicity, disability, and limited English proficiency.
Low-achieving students who face standards that are too high for them will risk losing
their self-worth (Stipek, 2002). Students with disabilities are possibly most at risk. Even
high-achieving students who define their self-worth by their performance success are
not immune to the effects of accountability testing. The increased emphasis on com-
petition and evaluation of student performance from elementary through high school
(Gottfried, Fleming, & Gottfried, 2001) may, in part, contribute to the documented de-
cline in students' intrinsic motivation from elementary through middle school (Lepper,
Corpus, & Iyengar, 2005), and preference for challenge, curiosity, interest, and mastery from elementary school to high school (Harter & Jackson, 1992).

_Gender and Ethnic Differences in Motivation_ Gender and cultural expectations about student competence, academic expectations, and developmental norms are apparent when assessing academic motivation. Indeed, girls begin to form negative perceptions of ability in elementary school when boys and girls are about equal in achievement (Dweck, 2002). Girls also more often attribute failure to lack of ability (Eccles, Barber, Jozefowicz, Malenchuk, & Vida, 2000). Gender differences in perceived ability are more prominent in male-stereotyped domains such as math and science (Eccles et al., 2000). However, girls’ higher values for English and music and their lower ability perceptions in math and science may be due to a greater reported interest and enjoyment in reading and writing activities than boys (Eccles et al., 2000; Jacobs, Lanza, Osgood, Eccles, & Wigfield, 2002). Even girls who are gifted and high-achieving hold an entity view of ability more often than boys (Dweck, 1999; Eccles et al., 2000), despite performance being equally good or better than boys (Cole, Martin, Peeke, Seroczynski, & Fier, 1999). By adolescence, this gap widens with males making internal attributions for success, leading to higher self-esteem and more subsequent effort in comparison to females that tend to be more discouraged after failure, which reduces their confidence to succeed (Oakes, 1990). Parental and teacher beliefs about male and female competences and goals also encourage these gender differences (Meece, Glienke, & Burg, 2006). However, as noted by Meece and colleagues, the literature on these differences is sparse and the gender differences that have been found are small in students’ achievement goal orientations.

Ethnic differences in motivation also occur. During adolescence, African American and Hispanic boys are more likely than other groups to reject achievement-related values (Graham, Taylor, & Hudley, 1998). In college, African American students tend to have an incremental view of ability (Aronson, Fried, & Good, 2002) because they attribute their poorer academic performance to causes outside their control such as poor school systems and discrimination (van Laar, 2000). The tendency of minority students to de-value academic achievement and make external attributions may be due to their skepticism regarding the usefulness of education for long-term social and economic success (Ogbu, 2003). However, students from diverse ethnic backgrounds tend to have a positive overall academic self-efficacy (Graham, 1994), but lower self-efficacy on specific tasks or in certain subjects, such as standardized test performance (Mayo & Christenfeld, 1999), math in African American students (Pajares & Krantzler, 1995), and writing in Hispanic students (Pajares & Johnson, 1996). Once again, these ethnic differences in motivation should be interpreted with caution. Even though research cites average differences among ethnic groups in motivational orientations, we should be careful not to make stereotypical assumptions about a student's motivation based on ethnicity. Students' motivation is more likely due to their achievement experiences, the beliefs and values of their family, and the classroom climate than their ethnic or racial identification. A plethora of research needs to be conducted in order to understand ethnic and gender differences in adolescent academic motivation and its' implications for goal planning and career choice in adulthood.

Goal planning, career choice, and academic motivation are key contributors to student
competence in which the family and school can partner to foster positive identity and optimal choices in these arenas. Once again, recognizing the one size does not fit all philosophy is important to note here. Not all youth desire to attend college. Children who are in noncollege preparatory programs tend to get a general education that does not foster competencies in work skills. In other words, many schools fail to support alternative career trajectories for these adolescents. In addition, maintaining supportive relationships while providing opportunities from both the family and school contexts, could enhance student competence. For example, schools and families could work together to find internships and part-time work for adolescents who would like to work in skilled trades. In addition, families and schools could begin to work together earlier to help those youth who would like to attend college through offering information and financial counseling about saving for college (savings, 529, and state-appropriated accounts) and scholarships. Furthermore, gearing instruction to the needs of the students should help to stem the decline in academic motivation that typically occurs during adolescence by increasing confidence in one's skills and abilities. When that occurs in the context of connectiveness in both the family and school contexts, then adolescents may choose more challenging educational and career paths.

CONCLUSIONS: THE IMPORTANCE OF INTEGRATING SCHOOL-FAMILY PARTNERSHIPS IN ADOLESCENCE

A person-environment-fit perspective emphasizes the need for the fit between the family's balance of separateness and connectedness and the developing adolescent's need for autonomy and connectedness in the school context. Links between one sector (i.e., the family) and another (i.e., school) need to be explored for the congruence between ecological niches and how it may enhance student competence. Not only is it important for parents to foster connectedness and autonomy-granting at home, but to encourage this balance at school as well. Research needs to further explore ways in which ecological niches differ from one another and how they are linked to adolescents' academic student competence, physical well-being, and psychosocial outcomes by taking an ecological approach and investigating how transactions between contexts serves to strengthen or diminish student competence. As detailed above, school-family partnerships can help youth deter challenges while simultaneously enhancing opportunities for learning adult roles, responsibilities, and behaviors. School-family partnerships that provide stability for adolescents, can address both the direct and indirect effects of an adolescent's environment and development on student competence. We call for more work to test this hypothesis while recognizing the developmental need for separateness and connectedness in both the family and school environments to help bolster adolescents' student competence.

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