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Social–Emotional Factors Affecting Achievement Outcomes Among Disadvantaged Students: Closing the Achievement Gap

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Abstract

Despite concentrated efforts at improving inferior academic outcomes among disadvantaged students, a substantial achievement gap between the test scores of these students and others remains (Jencks & Phillips, 1998; National Center for Education Statistics, 2000a, 2000b; Valencia & Suzuki, 2000). Existing research used ecological models to document social–emotional factors at multiple levels of influence that undermine academic performance. This article integrates ideas from various perspectives in a comprehensive and interdisciplinary model that will inform policy makers, administrators, and schools about the social–emotional factors that act as both risk and protective factors for disadvantaged students' learning and opportunities for academic success. Four critical social–emotional components that influence achievement performance (academic and school attachment, teacher support, peer values, and mental health) are reviewed.

Despite efforts to improve inferior academic levels among disadvantaged students, a substantial achievement gap exists between the test scores of these students and others (Jencks & Phillips, 1998; National Center for Education Statistics, 2000a, 2000b; Valencia & Suzuki, 2000). This reality, coupled with a situation where a growing number of children attend inadequate schools, has focused public attention on the need for school reform and has created enormous pressure to develop programs that promote achievement success among disadvantaged youth (Pianta & Walsh, 1998). This article designs a comprehensive model that will inform policy makers, administrators, and schools about the social–emotional factors that both hinder and promote disadvantaged students' achievement motivation and opportunities for academic success.

Clearly this topic is not new; however, the current approach differs from existing efforts in five principle ways. First, unlike past and present models that tend to be somewhat biased in suggesting reformation solutions, this article brings together views previously presented separately. Second, this article highlights the potential for the conceptual framework of resilience to uncover factors that modify the effects of high-risk conditions in inner-city middle schools. Third, attention is focused specifically on middle school students, emphasizing the particular developmental needs of adolescents during this period. Fourth, this article concentrates less on commonly referred to reform factors (e.g., class size, resources, materials), focusing instead on social–emotional issues (e.g., relationships, mental health) less typically indicated. Finally, the benefits accrued by addressing both the social–emotional and the academic needs of disadvantaged students within one comprehensive reform effort (see Lee & Smith, 1999; Lee, Smith, Perry, & Smylie, 1999) are underscored.

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Of note, as a result of the disproportionate representation of minority individuals among the lower socioeconomic strata of U.S. society, disadvantage frequently includes those individuals who are non-White and economically deprived (McLoyd & Wilson, 1990; Ogbu, 1988). Although some have argued against considering poverty and ethnicity as synonymous (Graham, Taylor, & Hudley, 1998; MacPhee, Kreutzer, & Fritz, 1994), the following model focuses on those social–emotional factors and developmental processes that might generalize across ethnically diverse children living in poverty (Luthar, 1999).

Two significant factors underscore the value of concentrated school reform efforts at the middle school level. First, the transitional period of early adolescence requires a renegotiation of rules and roles for successful adaptation (Eccles & Harold, 1993; Paikoff & Brooks-Gunn, 1991; Steinberg, 1990). During the middle school years, adolescents' teacher, classroom, and school experiences have critical effects on future educational and life opportunities (Elmen, 1991; Kramer, 1991; Lipsitz, 1981). In fact, research has shown that children who possess resources that they can rely on (e.g., social support, positive attitudes about school) during the transition to middle school are better prepared for a successful school transition than students lacking such resources. Therefore, because disadvantaged children in particular show deteriorating interest in academics (Lepper, Sethi, Dialdin, & Drake, 1997; Stipek, 1997) and escalating levels of emotional distress (McLoyd & Wilson, 1990; Ripple & Luthar, 2000) during the middle school years, the need to attend to the academic and mental health needs of these students more vigilantly is warranted (Luthar, 1999).

Second, according to the person–environment fit model (Eccles, Lord, & Buchanan, 1996; Eccles, Lord, & Roeser, 1996; Wigfield, Eccles, & Rodriguez, 1998), the lack of fit between the middle school environment and early adolescent developmental needs is also responsible for the shift toward more negative student self-evaluations and school achievement attitudes. The model suggests that many of the changes associated with the transition to, and experience of, the middle school environment conflict with the developmental needs of adolescents. For example, at a time of heightened self-consciousness, goals for learning emphasize competition; during a period in which adolescents' need for adult mentors grows, teacher–student relationships weaken; and in a stage of increased need for autonomy, opportunities for student independence diminish (Eccles & Midgley, 1989; Midgley, 1993). This may be especially true for disadvantaged adolescents whose need for a safe and supportive school climate is even more profound, considering that many of these students come from family backgrounds and environments where such support may be deficient (Brookover et al., 1978; Edmonds, 1979; Walberg, 1985).

EVIDENCE FOR THE ACHIEVEMENT GAP

Evidence showing that relative to Caucasian students, minority youth receive lower grades (Miller, 1996; National Center for Education Statistics, 2000b, 2001), score lower on standardized tests of academic ability (Jencks & Phillips, 1998; Levine & Eubanks, 1990; Miller, 1996; Steele, 1992; Witherspoon, Speight, & Thomas, 1997), have higher rates of grade retention (Owings & Magliaro, 1998; Reynolds, 1992), and are disproportionately assigned to low-ability groups in elementary and middle school and vocational tracks in high school (Dauber, Alexander, & Entwisle, 1996; Oakes, 1995; White & Parham, 1990) reveals the seriousness of the achievement gap between the test scores of both low-income and minority students and others. Over the last 30 years, urban educational policy and research has been driven by ongoing attempts to understand these trends and has produced reform models such as the effective schools movement, school restructuring, and school choice and privatization plans (Balfanz, 2000). However, although recent data from the 1999 National Assessment of Educational Progress (NAEP) showed that during this 30-year period, both

Black and Hispanic students have made significant achievement gains, the average scores for these groups of students remain well below those of non-Hispanic, White students (National Center for Education Statistics, 2000a, 2000b).

Thus, despite more than 3 decades of urban school research and reform aimed at improving disadvantaged student achievement performance, current data on urban achievement reveal that these programs have not met the task (Boyd & Shouse, 1997; Education Week/Pew Charitable Trust, 1998; Valencia & Suzuki, 2000; Zernike, 2001). Explanations for the failure of these efforts include a realization that the majority have relied on prevailing remedies that are based on limited empirical evidence (Balfanz, 2000) and that many have neglected to establish a reliable set of coherent procedures for transforming ineffective middle schools into effective ones (Boyd & Shouse, 1997). Moreover, and all too often, studies that examine disadvantaged youth achievement focus only on negative outcomes, failing to uncover and inform interventions of modifiable factors that lead some students to academic success (Meece & Kurtz-Costes, 2001; Spencer, Noll, Stolzfus, & Harpalani, 2001) despite formidable economic and social barriers (Bronfenbrenner, 1986).

EXPLANATIONS FOR THE ACHIEVEMENT GAP: SOCIAL–EMOTIONAL PROPOSITIONS FROM VARIOUS DISCIPLINES

The ecological/transactional model can be helpful in understanding the multiple contexts affecting disadvantaged children's achievement performance. According to this perspective, an individual's environment consists of several co-occurring levels (Bronfenbrenner, 1979; Cicchetti & Toth, 1997) that interact to influence development. The most distal levels of the environment include the *macrosystem*, which consists of cultural values, beliefs, and ideologies, and the *mesosystem*, which refers to social structures that affect, but do not include, the child. For example, within the context of the community and society, theorists have explored how a history of racial prejudice and daily experiences of discrimination (Hunter, 1980; Mickelson, 1990; Ogbu, 1978; Steinberg, Dornbusch, & Brown, 1992) cause many disadvantaged adolescents to believe that hard work in school is irrelevant (Lerman, 1996) and that academic endeavors will have relatively little economic payoff (Midgley, 1993).

The level of the environment that exerts more proximal influences on individual development and includes the immediate context in which the developing individual interacts with people (e.g., the school), on the other hand, is the *microsystem*. Researchers with interests at the school level for example, have shown that sharp declines in achievement motivation occur with the transition to middle school (Eccles & Midgley, 1989; Eccles et al., 1993), during which students often experience lowered teacher expectations (Brophy, 1983; Brophy & Good, 1970; Eccles, Lord, & Buchanan, 1996; Eccles, Lord, Roeser, Barber, & Jozefowicz, 1997) and consequent lowered academic attitudes, self-esteem, and motives (Battistich, Solomon, Kim, Watson, & Schaps, 1995; Dweck, 2000). Researchers have also explored school-related attitudes among peer groups, focusing on the academic and nonacademic norms and behaviors that are valued and consequently reinforced by peers (Graham et al., 1998; Murdock, 1999). Finally, those interested in child characteristics and personality development have shown how student achievement is linked to the state of children's emotional and mental health (Deci, Vallerand, Pelletier, & Ryan, 1991; Knitzer, 1999; Roeser, Eccles, & Freedman-Doan, 1999; Roeser, Eccles, & Strobel, 1998). In sum, such research emphasizes the importance of considering salient vulnerability and protective processes that operate across multiple levels of early adolescents' environments, affecting achievement performance.

FEDERAL, STATE, AND LOCAL RESPONSE

The federal government funds a significant portion of current research on education and provides a national agenda for most education reform. The recent focus of this research has been to encourage all U.S. elementary and secondary students to meet high, nationally competitive standards of achievement in core academic subjects and to produces killed workers able to compete in the global economy. The Goals 2000: Educate America Act and the Improving America's Schools Act, both passed in 1994, provide federal funding to assist states and school districts in developing higher academic standards. Constitutionally however, states are responsible for creating their own comprehensive education policies and regulations for districts and schools (Hannaway & Clewell, 1999).

Accordingly, the current standards movement was enacted to ensure that states hold all students, regardless of economic or racial background, to equally high expectations for academic achievement (Weiner, 2000). As a result, although states have considerable flexibility in using federal education funds, they must provide measures of accountability (Hannaway & Clewell, 1999) through high-stakes testing systems, including (a) grade retention, promotion, and graduation for students; (b) merit pay awards or dismissal consequences for teachers and administrators; and (c) supplementary funding, reconstitution, or loss of funds for schools (Darling-Hammond, 2000), all of which are linked to student-performance outcomes.

Currently, however, despite some progress, several continuing challenges remain. First, although the achievement levels of students in disadvantaged schools have improved, these students remain much farther behind their peers in meeting basic academic achievement levels in both reading and math. For example, in 1998 the percentage of fourth-grade students in the most impoverished public schools who met or exceeded the NAEP basic level in reading was almost half the national rate. In math, the percentage of students in these schools scoringator above the basic level was only two thirds that of the national average (*Turning Around Low-Performing Schools,* May 1998). Another remaining challenge is that a significant number of Title I schools, particularly those with the highest concentrations of high-poverty children, continue to employ inappropriate staff with inadequate teacher preparation. Finally, the fiscal capacity of states to provide assistance for those schools enrolling the highest concentrations of poor children is often limited. For example, in 1998, approximately one third of high-poverty schools identified for improvement did not receive any additional professional development or assistance (*Targeting Schools: Study of Title I Allocations Within School Districts,* 1998).

Thus, simply raising education standards and enforcing strict sanction policies without (a) rectifying inequities in the distribution of resources across school districts, (b) addressing the underlying social–emotional forces also involved in low academic performance, (c) providing requisite teacher preparation through professional development experience, and (d) supporting effective and sustainable preventive courses of action, does little to ensure that disadvantaged students will show real learning and achievement improvements (Entwisle, Alexander, & Olson, 1997; Finn, Rotherham, & Hokanson, 2001). In fact, much research has shown that retention and social promotion practices for improving student achievement without corresponding high expectations and support (Allington & Cunningham, 1996; Shepard & Smith, 1990) can be counterproductive because repeated experiences of failure and punishment often lead to a sense of learned helplessness among students (Dweck, 2000; Zigler & Hodapp, 1986). Negative school experiences cause many students to feel powerless over their own learning capacity or potential (Ross & Broh, 2000; Thomas, 2000) and have been shown to encourage students' disengagement from the academic realm (Midgley, Arunkumar, & Urdan, 1996; Ross & Broh, 2000). Thus, simply

raising academic standards without also attending to early adolescents' physical, social–emotional, and instructional needs (American Federation of Teachers, 1997; Thomas, 2000) should be both unsuccessful and destructive.

INCREASED FUNDING DOES NOT INVARIABLY IMPROVE ACHIEVEMENT OUTCOMES

Likewise, greater funding by itself should not be considered the sole solution to improving disadvantaged students' achievement because efforts to improve achievement outcomes by resource-contingent accountability methods also do not reflect effective attempts to improve students' learning (Hannaway & Clewell, 1999). Past resource increases to disadvantaged schools, creating smaller schools and class sizes, and upgraded facilities, have not always generated significant achievement improvements (Dynarski & Gleason, 1999). For example, the Kansas City School District spent more than $1 billion on improvements, including new school buildings, up-to-date materials, state-of-the-art computer labs, increased teacher salaries, and decreased class sizes, and yet made no progress in student achievement (Armor, 1995; CBS News, 1994).

One potential explanation for the lack of significant achievement improvements despite increased economic resources is that concerted efforts must also be taken to ensure that teachers and school leaders receive essential professional development experience, which allows them not only to be effective teachers, but also to be sensitive to the developmental needs of middle school students (Carnegie Council on Adolescent Development, 1995; Cowen et al., 1996). Although the presence of adults in schools constitutes principle resources that are already in place, teachers are often unable to maximize their protective role (Spencer et al., 2001). Thus, increased or redirected spending toward professional development for teachers aimed at improving (a) teacher–student relationships, (b) quality instruction (Lee et al., 1999), and (c) methods of handling student misbehavior in ways that do not detract from the quality of teacher–student relationships or from learning opportunities (Pianta & Walsh, 1998), should assist teachers in producing the major achievement improvements demanded by accountability policies. Ultimately, programs that rely entirely on increasing academic standards without parallel attention to social–emotional factors associated with achievement motivation and performance will be less likely to improve student achievement outcomes (Lee & Smith, 1999; Lee et al., 1999; Lerman, 1996).

SOCIAL–EMOTIONAL FACTORS ASSOCIATED WITH ACHIEVEMENT PERFORMANCE

Grounded in a thorough examination of interdisciplinary research, existing school reform models, and empirical assessment associated with such models, four critical components within the middle school context emerge as pertinent to comprehensive school reform. These include academic and school attachment, teacher support, peer values, and mental health. Each component, along with supporting empirical evidence, is addressed in the following text. However, one should first note that any implication that parental and family influences on disadvantaged students' achievement outcomes are irrelevant, is unintended. On the contrary, countless studies have demonstrated the importance of parental support and school involvement on the educational achievement of disadvantaged students (Clark, 1983; Cooper & Datnow, 2000; Epstein & Connors, 1995; Greenwood & Hickman, 1991; Hoover-Dempsey & Sandler, 1995).

Many advocates of ecological reform models maintain that teaching and learning are inextricably linked to school climate and organization and that school reform models must

address the diverse transactions between children and their environmental contexts (Weiner, 2000). Such an approach can be seen, for example, in the Child Development Project (CDP), which was designed to enhance protective factors (i.e., school climate, social bonding) within elementary schools. The CDP model is based on the belief that students' greater attachment to the school community should in turn promote greater commitment to school norms and values as reflected in student behavior (see Battistich, Schaps, Watson, & Solomon, 1996; Battistich et al., 1995). Extensive research and evaluation of CDP programs have shown links to students' intrinsic academic motivation, concern for others, conflict resolution skills, and satisfaction in assisting others in learning (Schaps & Lewis, 1999).

Relatedly, a second exemplary intervention, which also uses an ecological approach in working with parents, community members, and school personnel to encourage positive child development, is Comer and colleagues' School Development Program (SDP; see Comer, 1988; Haynes & Comer, 1996). The general framework of SDP is based on three structures: (a) the school planning and management team, which involves parents and school staff in making decisions that influence school policy, climate, and programs; (b) the student and staff support team, which comprises mental health and child development professionals who work to identify and address developmentally and socially appropriate responses to issues affecting students and staff; and (c) the parent team, which enables parents to participate in the school's social and academic programs. Importantly, in addition to attending to the social–emotional aspects of education (i.e., fair and equal treatment of all students, high expectations for student achievement), SDP also maintains a similar emphasis on academic excellence (Haynes, 1996). SDP has a substantial history of evaluation and research and has been shown to improve school climate, student attendance, and student achievement outcomes (Haynes & Comer, 1996).

The need for such reform efforts, which not only have a strong developmental focus, but also stress the importance of academic excellence, is undeniable and important. Although the current "get tough" policies of the standards-reform movement claim to give disadvantaged students equal educational opportunities, they may actually further the stigmatization of disadvantaged students. For example, higher numbers of disadvantaged students experience academic failure and subsequent sanctions, causing many of these students to disengage and eventually drop out of school (Thomas, 2000; Weinstein, 2002). Consequently, reform efforts must not only be aimed at reducing negative achievement outcomes, but also toward promoting achievement success and competence (Luthar & Cicchetti, 2000).

Currently, however, due to structural inequalities in attitudes, resources, and quality instruction, disadvantaged students continue to face barriers to equal educational opportunities. Schools that serve large numbers of disadvantaged students are least likely to offer the types of instruction, materials, and qualified teachers that provide students pathways to meeting the new standards (Darling-Hammond, 2000). Moreover, disadvantaged students are more likely to experience lowered future expectations, inequitable exposure to learning opportunities, and negative messages about their own academic capacities. Thus, differential risk and protective factors operating at the middle school level (e.g., school climate, teacher support, peer values) profoundly influence these students' achievement motivation and performance (Elmore, 1992; Elmore, Perterson, & McCarthy, 1996; Weinstein, 2002). The effects of discrimination and expectancy effects on disadvantaged students' school experiences and subsequent achievement performance should therefore be considered through an ecological lens (Weinstein, in press).

Academic and School Attachment: Motivation to Learn

Summarizing the literature, Brophy (1988) argued that several school characteristics elicit successful achievement outcomes, including (a) a safe climate, (b) strong leadership, (c) positive teacher attitudes and expectations toward students, (d) an emphasis on instruction, (e) careful monitoring of both student progress and staff evaluation, (f) strong parent involvement, and (g) an emphasis on the importance of academic achievement (see also Good & Brophy, 1986). However, despite a large body of research, which has demonstrated the significance of the school context as a salient factor involved in both achievement motivation (Connell, Spencer, & Aber, 1994; Deci et al., 1991; Eccles, Lord, & Buchanan, 1996; Wigfield & Eccles, 2002) and emotional well-being (Cauce, Hannan, & Sargeant, 1992; Comer & Woodruff, 1998; Farmer & Farmer, 1999; Roeser & Eccles, 2000; Ryan, Stiller, & Lynch, 1994), disadvantaged students rarely benefit from school experiences that promote overall positive youth development (Darling-Hammond, 2000).

Typically, schools serving large concentrations of disadvantaged youth receive inadequate funding and incompetent staff, which prohibit these schools from adopting more promising instructional and developmentally responsive teaching methods. Likewise, the curriculum offered in many of these schools is commonly geared toward lower order “rote” skills and several teacher–student practices in disadvantaged classrooms have been cited as particularly detrimental to student motivation and expectations regarding academic success (Darling-Hammond, 2000). For example, classroom observations in poor school districts reveal an emphasis on teacher-directed activities, including independent seatwork, rote learning, and frequent interruptions of learning activities for behavior management (Haberman, 1991).

The significance of the particularly negative school contexts disadvantaged early adolescents experience is underscored; many researchers theorize that social support and belonging in the classroom may be one of the most important factors involved in disadvantaged students’ achievement motivation and engagement (Bowen, Richman, Brewster, & Bowen, 1998; Finn, 1989; Gutman & Midgley, 2000; Wehlage, Rutter, Smith, Lesko, & Fernandez, 1989). Indeed, much evidence has shown the protective effects of a positive school environment on disadvantaged students’ psychosocial competence. Using a diverse sample of elementary schools, Battistich et al. (1995) demonstrated that a sense of school community was positively associated with most measures of academic attitudes and motives, with results especially pronounced among the most disadvantaged student populations. Similarly, Connell and Wellborn (1991) revealed that students’ feelings of acceptance by their teachers and school were strongly associated with their cognitive, behavioral, and emotional engagement in the classroom. Likewise, in a longitudinal study, beginning with students in the seventh grade, Kaplan, Peck, and Kaplan (1997) used a causal model to depict the relation between academic failure and dropout behavior. Results emphasized the importance of school context because negative academic experiences had a significant impact on students’ academic self-beliefs and feelings of being rejected in the school environment. Students who later dropped out of school were more likely to have felt alienated from the school context.

Resulting from such extensive empirical documentation, several recommendations have been made to strengthen school climate through education reform. For example, the Carnegie Council on Adolescent Development (1989), in its highly publicized document *Turning Points*, suggested that all middle schools be restructured to be more “human” oriented. Similarly, the Superintendent’s Middle Grade Task Force (1987, p.101) maintains that schools must promote “a sense of closeness” between students and the school community to “enhance the development of intellectual growth, academic achievement, and emotional and social maturity.” More recently, a 1994 U.S. Department of Education

sponsored monograph, *Education Reforms and Students at Risk: A Review of the Current State of the Art,* cited extant research demonstrating poor academic performance to be the result of a process of disengagement, beginning as early as a child's first entry into school. According to the model, students who are not given the chance to identify, participate, and succeed in school activities become increasingly at risk for school failure, alienation, and dropping out (Rossi & Montgomery, 1994).

Significantly, however, although much research suggests that achievement benefits are more likely to be accrued through greater emphasis on promoting feelings of school belonging for disadvantaged students (Dorsch, 1998; Sewell & Price, 1989; Stipek, 1997), researchers caution against school reforms that focus solely on this component (Lipsitz, 1997; Mergendoller, 1993; Phillips, 1997; Shouse, 1996a, 1996b). Increased social support and attention to early adolescents' developmental needs without similar attention to classroom and instructional change will be unlikely to produce significant learning improvements (Lee & Smith, 1999; Lee et al., 1999; Mergendoller, 1993). Such an imbalance may be especially prevalent within disadvantaged schools where, because of the economic and emotional hardships faced by many of these students, the tendency may be to focus more on providing acceptance and support without comparable attention to promoting academic excellence (Ladson-Billings, 1994; Stipek, 1997).

Teacher Support and Expectations

Access to competent teachers is one of the most inequitably distributed resources between disadvantaged students and their more affluent counterparts (Darling-Hammond, 2000; Whitmire, 1998). This is especially troublesome given the fact that students' perceptions of teacher support have been consistently linked with increased achievement motivation, academic success (Felner, Aber, Primavera, & Cauce, 1985; Goodenow, 1993; Wentzel & Asher, 1995), and feelings of well-being (Eccles & Harold, 1993; Roeser, Midgley, & Urdan, 1996; Ryan et al., 1994). During the middle school years, early adolescents' relationships with teachers become increasingly significant as adolescents look for role models and support from nonparental adults (Lee et al., 1999; Wigfield et al., 1998). Research shows that students who feel their teachers encourage them are more committed to learning and more successful academically (Harachi, Abbott, Catalano, & Haggerty, 1996; Murdock, 1999).

Experts believe that such positive achievement outcomes result from student perceptions of teacher support, which produce self-fulfilling prophecies that promote student achievement in keeping with those expectations (Brophy & Good, 1970; Jussim, 1989). For example, Murdock (1999) found seventh graders' perceptions of their teachers' appraisals and support to be the most consistent and significant predictor of student achievement outcomes. In addition, Goodenow (1993) revealed that perceived teacher encouragement explained more than one third of the variance in students' expectations for success. These findings are consistent with models of teacher expectation effects (Bronfenbrenner, 1977; Weinstein, 1989; Weinstein, Madison, & Kuklinski, 1995), which emphasize students' perceptions of teacher expectations as predictors of behavioral and academic outcomes.

Significantly, students' reports of supportive interpersonal relations with teachers decline following the transition to middle school (Eccles, 1999; Eccles, Lord, & Buchanan, 1996). This appears especially true for disadvantaged students who are more likely than their more affluent counterparts to perceive teachers as having low expectations for their educational potential. Granted, such perceptions may be biased because many of these students have been affected by family members' experiences of discrimination and, as a result, may be more prone to believe that teachers will be similarly discriminatory (Murdock, 1999). Nevertheless, research has shown that teachers' expectations of students indeed are often

influenced by student characteristics such as social class and ethnicity (Eccles et al., 1993; Goodenow, 1993; Murdock, 1996), and disadvantaged and ethnic minority youth are more commonly expected to do poorly and given tedious academic work (Kagan, 1990; Oakes, Gamoran, & Page, 1992). Moreover, studies indicate that Black students (especially boys) in particular are more likely than other students to be the target of lowered teacher expectations (Goodenow, 1993; Murdock, 1996, 1999). Thus, lowered teacher expectations and negative student appraisals are often linked to social factors unrelated to students' academic capability or even success (McKown & Weinstein, in press; Weinstein, 2002).

Consequently, implementing higher standards without focusing comparable attention on improving teacher sensitivity is not only unwise but also unjust (Weinstein, 2002). Teachers must receive professional development experience, which prepares them to educate and understand students whose values, cultures, and life experiences may be different from their own (see Weiner, 2000). Likewise, teachers and school administrators would benefit from knowledge that allows them to recognize, acknowledge, and address potentially harmful outcomes practices of discrimination in schools cause (both implicit and explicit; Fine, 1991; Roeser, Eccles, & Sameroff, 2000; Sadker & Sadker, 1994; Tatum, 1997). Disadvantaged students should benefit greatly from access to supportive teachers within the context of a rich and challenging curriculum. Teacher preparation is a crucial component of school reform (Comer & Maholmes, 1999).

Peer Values

For most middle school students, early adolescence reflects a time also characterized by an increasing dependence on peer relations to establish and maintain positive self-perceptions (Steinberg, 1990). Unlike feelings of school belonging however, which consistently show positive associations with achievement outcomes (Felner et al., 1997; Lipsitz, 1997; Midgley & Edelin, 1998), the effects of peer support on disadvantaged children's achievement performance are not always straightforward. Depending on the dominant value within the peer group, academic performance can be either positively or negatively affected (Brown, 1990; Hansen, 1986; Roberts & Petersen, 1992). Thus, attention to peer group values should be valuable in understanding why some students pursue goals of achievement, whereas others disparage academic perseverance (Patrick, Hicks, & Ryan, 1997; Ryan, Hicks, & Midgley, 1997).

Research has shown a significant association between academic failure among disadvantaged youth and the presence of antiacademic norms in their peer groups (Bishop, 1989; Graham et al., 1998; Matute-Bianchi, 1991). Some suggest, for example, that ethnic minority youth underachieve in school to avoid being ostracized by peers or accused of "acting White" (Fordham, 1988; Fordham & Ogbu, 1986; MacLeod, 1987, 1991; Ogbu, 1985, 1992). Spencer and Dornbusch (1990) showed that ethnic-group status was a significant determinant of achievement outcomes, in that although White and Asian-American adolescents placed value on education and achievement, Black and Hispanic youth were less likely to value education. Similarly, economic status also appeared to be a significant predictor; lower income youth were only able to gain peer acceptance by repudiating the values and traditions of mainstream society, particularly the culture of the school (see also Matute-Bianchi, 1991). Moreover, in a study with inner-city high school students, Luthar (1995) showed that students who were popular in the beginning of the year showed significant declines in their grades over time, thereby suggesting that the peer group looked down on what was valued by the majority group (see also Cauce, Felner, & Primavera, 1982; Fordham & Ogbu, 1986; Garibaldi, 1992; Graham, 1997). Finally, Graham et al. (1998) used a peer-nomination procedure to examine achievement values among disadvantaged ethnic minority middle school students and demonstrated that minority boys were overwhelmingly nominated as low-achieving and low-motivated students. In addition,

findings emphasized some of the problems faced by disadvantaged, minority boys because devaluing of academic achievement was evident only among Black and Latino boys.

Not all minority students perform badly in school however, and research has begun to indicate the protective factors and consequent successful achievement outcomes among minority youth. For example, contradictory evidence for the proposition that minority students gain peer acceptance through the repudiation of achievement values (Fordham & Ogbu, 1986) has been demonstrated. Cook and Ludwig (1998) revealed that high-achieving Black students reported feeling as popular, and in some cases more popular, than their low-achieving peers. In addition, Spencer et al. (2001) showed that having an Afrocentric, rather than a Eurocentric, identity was associated with higher achievement outcomes in Black students. Suchdivergence in views regarding peer values as both vulnerability and protective variables highlight the need for further research in this area.

From an intervention-policy perspective, information regarding peer values and their potential to encourage some students to engage in achievement-oriented goals while leading others away from academic perseverance (Patrick et al., 1997; Ryan et al., 1997) will be highly beneficial to current reform efforts. With knowledge of the specific conforming and nonconforming behaviors that disadvantaged students pursue to gain a positive reputation among their peers, educators can target those that are detrimental to achievement performance and promote those that lead to academic success (Kennedy, 1995).

Mental Health

Finally, an important and often-neglected precursor to early adolescent achievement performance and motivation in urban school reform efforts is the state of children's mental health. Such disregard is dangerous because the significance of children's emotional distress and subsequent achievement performance is underscored by evidence showing that (a) 12–30% of all school-aged children have emotional disorders damaging enough that eventually these children will suffer severe educational problems (Institute of Medicine, 1994; Kazdin, 1993; Tuma, 1989; U.S. Department of Education, 1994; Verhulst & Koot, 1992; Weissberg, Caplan, & Harwood, 1991; Weist, 1997); (b) children confronting accumulative and additive risks associated with disadvantaged environments face increased vulnerability to emotional problems (Furstenberg, Cook, Eccles, Elder, & Sameroff, 1999; Roeser et al., 1999; Sameroff, Seifer, & Bartko, 1997); and (c) psychological distress during early adolescence leads to truncated educational attainments in approximately 7.2 million Americans (Kessler, Foster, Saunders, & Stang, 1995).

Despite such evidence, however, children's mental health remains one of the least explored components of achievement performance and, if left neglected, will prove to be a very serious impediment to education reform efforts. For example, Felner et al. (1995) investigated the interrelations among socioeconomic disadvantage, proximal environmental experiences, and social–emotional and academic adjustment with a sample of disadvantaged middle school students. Findings provided support for an ecological–mediational perspective for understanding patterns of association between socioeconomic disadvantage and adolescent competence, as levels of disadvantage were associated with both social–emotional and academic adjustment, with those from relatively disadvantaged backgrounds showing the worst outcomes. Support for an ecological–mediational model was also provided because the effects of disadvantage on social–emotional adaptation were mediated by the adolescent's school experiences and exposure to stressful events across a wide range of developmental contexts. Thus, the need for primary prevention activities to reduce the exposure of youth to developmentally hazardous conditions and to enhance potentially protective and compensatory ones was emphasized.

Further, Roeser and colleagues (1998) examined the longitudinal relation between early adolescents' school motivation, achievement, and emotional functioning, with a large sample of adolescents from 23 middle schools representing a broad socioeconomic range. Using a person-centered, cluster analytic approach, a four-cluster solution was extracted (positive adjustment status, poor academic value status, poor emotional adjustment status, and multiple-risk status). Students who were classified in the poor emotional adjustment group (15%) reported feeling academically competent at school and at the same time psychologically distressed. These students also reported greater experiences of race and gender-based discrimination by school professionals. Thirty percent of students were classified in the multiple-risk status group and were characterized as depressed, low achieving, and poorly motivated. These youth were more likely to have experienced school failure and poor grades, to devalue school, and to have frequent symptoms of distress. Importantly, Roeser and colleagues' (1998) findings support previous research showing that despite outward appearances of academic adjustment, many disadvantaged students experience considerable emotional distress (Farber & Egeland, 1987; Luthar, 1991, 1995; Luthar, Doernberger, & Zigler, 1993; Werner & Smith, 1992).

Mental health services for both high- and low-achieving adolescents are therefore clearly a significant pathway to long-term productivity and employability (Knitzer, 1999). However, most school-based mental health services are currently fragmented and inadequate, and few at-risk children receive the attention that they need (Conoley & Conoley, 1991; Knitzer, Steinberg, & Fleisch, 1991; Tuma, 1989; Weist, 1997). In fact, in most schools, existing programs focus only on improving academic–career skills or attenuating disruptive behaviors (e.g., conduct or antisocial problems; Knitzer, 1999). Indeed, despite evidence revealing the potential for school-based mental health services to enhance and improve the academic and emotional functioning of all children (Adelman & Taylor, 1997, 2000; Dryfoos, 1994; Felner et al., 1995; Roeser, Eccles, & Sameroff, 1998; Roeser, Eccles, & Strobel, 1998), relatively few middle school reforms include a mental health component.

ECOLOGICAL APPROACH TO INTERVENTION WITHIN THE MIDDLE SCHOOL

In most student–environment interactions, a continuum of risk and protective factors, acting within varying levels of the environment, will most likely be present. The ecological framework, as a basis for intervention, identifies the interconnections among student characteristics, the school, and community context, which influence achievement performance (e.g., Bronfenbrenner, 1977; Cicchetti & Lynch, 1993; Sameroff & Chandler, 1975). Thus, in terms of intervention, a reform model based on the ecological framework should provide policy makers and school leaders with contextually relevant, modifiable factors, which serve not only to improve students' achievement performance, but also to create a cycle of continuous improvement (see Table 1 for examples of exemplary reform models with a strong research base).

At a macro level, before comprehensive school reform programs can be effective, efforts must be taken to ensure that the basic needs of disadvantaged early adolescents are met. Scholars, practitioners, and policy makers should consider the profound influence that poverty has on the learning environments of disadvantaged students (McCarthy, 1995; McLaughlin, 1993). These children constitute a subgroup particularly vulnerable to insults not only from their physical and social environment (Luthar, 1999), but also from societal expectations and stereotypes (Steele, 1992).

Likewise, considering more proximal influences as well, evidence from existing research has demonstrated important factors contributing to disadvantaged children's achievement.

Lasting changes in students' beliefs about achievement and motivation to learn should be realized through teaching and learning approaches that are designed to support feelings of belonging, academic self-efficacy, and mental health. A curriculum that (a) builds on the cultural knowledge that children bring to the classroom (Guitierrez, 1992; Lee, 1992; Montgomery & Rossi, 1994; Peterson, 1991); (b) allows for opportunities for self-exploration and expression (i.e., family tree assignments, autobiography reports); and (c) provides learning activities that are meaningful, relevant, and related to students' own interests and goals (Blumenfeld, 1992) should lead to increased academic engagement. If students maintain some responsibility for their own learning and receive requisite support from teachers and the school context, then personal efficacy will be reinforced, eventually allowing students to exert some control over their own education (Higgs & Tarsi, 1997).

More important, a supportive relationship with an adult is one of the single most commonly identified protective factors in the literature on resilience (Luthar & Zigler, 1991; Masten, Best, & Garmezy, 1990; Masten & Coatsworth, 1998; Werner & Smith, 1982, 1992). Thus, programs that allow early adolescents to experience positive interactions with adults (i.e., teacher, mentor) who provide acceptance and supportive feedback, will not only promote social–emotional growth, but also will create a more nurturing classroom environment, ameliorating the effects of stressful environments (e.g., Pianta & Walsh, 1996; Sergiovanni, 1994).

Moreover, school-based interventions aimed at reducing the incidence of mental health problems promote positive behavior change in children (Nafpaktitis & Perlmutter, 1998; Tuma, 1989), improve teachers' perceptions of students' adjustment (Nafpaktitis & Perlmutter, 1998), and reduce the need for more intensive and costly treatment services (Conoley & Conoley, 1991; Tuma, 1989). Consequently, middle school reform efforts that focus on early adolescent mental health should serve to improve both achievement motivation and performance and emotional competence of all children (Adelman & Taylor, 1997; Dryfoos, 1994; Roeser et al., 1999) and should be considered critical to middle school reform efforts.

However, just as accountability methods that demand higher educational standards without a similar emphasis on the social–emotional needs of early adolescents will not result in much success, efforts to improve the social–emotional needs of disadvantaged students without a comparable application of instructional and curricular methods to attain academic excellence will be similarly ineffective. Such knowledge was derived in part from Chicago's efforts to improve the achievement performance of disadvantaged students (Hess, 1999). Analyses of citywide survey data and achievement test scores of middle school students in Chicago showed that student learning was significantly increased when both achievement standards and social support were emphasized (Lee et al., 1999; Sebring et al., 1996). Moreover, researchers have argued that such a combined emphasis may be especially important for disadvantaged students' achievement success (Bryk, Lee, & Holland, 1993; Sebring et al., 1996; Shouse, 1996a; Lee et al., 1999).

SCHOOL REFORM AND THE AMERICAN PUBLIC

Theory and empirically driven interventions have been shown to be more cost effective than attempts to intervene after maladjustment has become well entrenched (Luthar & Cicchetti, 2000). Thus, funding that is applied toward efforts to promote academic engagement and resilient adaptation and not simply higher test scores, should be both socially and economically cost effective. However, recommendations do not necessarily require increased spending, but rather a redistribution and appropriation of current funding. Without such efforts, high levels of school dropouts will result in billions of dollars in lost earnings,

unrealized tax revenue, welfare programs, and criminal justice expenses for this country (Baptiste, 1992). Furthermore, as Stringfield (1994) maintains, providing highly reliable schools for at-risk students is less costly than paying for further expansion of welfare, police, and prison programs. In fact, society pays six times more to maintain an uneducated adult than it pays to keep a student in school through graduation. Thus, for those who are unconvinced of the need for intervention, the economic costs incurred for failing to do so may foment a commitment to intervene (Kronick, 1997).

As the United States faces global economic competition coupled with escalating urban degeneration, children at risk for school failure represent a constituency whose fate will help shape the future of this country (Hudley, 1997). Consequently, to accomplish the National Education Goal of graduating 90% of all students and reducing the national dropout rate, intervention and school reform at all school levels must be a primary national goal (National Education Goals Panel, 1993). To meet that goal, the middle school context should be considered critical to children's development (Maughan, 1988). Reform models that incorporate theory and empirical evidence using middle schools as a context for healthy development (Pianta & Walsh, 1998) will serve not only to increase the achievement levels of at-risk youth, but also the achievement levels of youth in general.

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TABLE 1

Exemplary School Reform Models With a Strong Research Base

Models	Grade Level	Main Features	Costs	Evidence for Success	Contact
Comprehensive school reform models					
America's Choice	K–12	A standards-based curriculum, which is focused in the early years on literacy in reading, writing, and mathematics, and at the high school level on a demanding academic core, intended to prepare students for college. An intensive PD component for teachers focuses on concrete classroom applications of general ideas and collaboration.	First-year costs are approximately $190,000 (covers PD, staff release time, materials, and two staff positions): can be lowered to $90,000 in subsequent years if current staff is reassigned.	74% of Kentucky's and 80% of Chicago's schools met or exceeded performance goals. Studies using rigorous methodology are underway.	National Center on Education and the Economy (www.ncee.org/ac/intro.html).
ATLAS Communities	Pre-K–12	A key feature of ATLAS is the Pre-K–12 "pathway," which coordinates and produces a coherent educational program for each student from the first day of school through graduation. Teachers engage in sustained PD; involves families and community members in student learning.	First-year costs are approximately $98,000 (covers technical assistance, PD, release time, materials, and a pathway coordinator): $90,000 after first year.	Standardized test score improvements, discipline, and dropout declines are indicated. Longitudinal data collection is underway.	Education Development Center (www.edc.org/FSC/ATLAS).
Community for Learning Model	K–12	Focused on urban and rural schools with a high concentration of disadvantaged students. Holds all students to high standards by connecting learning opportunities in varied environments, including the school and the community (homes, libraries, museums, etc.). Coordinates a health and human services delivery component. Provides PD and support at the school and classroom level.	First-year costs are approximately $157,000 (covers PD, staff release time, and additional staff). Lowered to $82,000 in subsequent years by reassigning current school staff as school facilitators and district staff as project coordinators.	A substantial number of studies have shown promising effects on student achievement, teacher instruction and classroom practice, dropout rates, and school attitudes and climate.	Laboratory for Student Success (www.temple.edu/LSS/cfl.htm).
Co-nect	K–12	Primary purpose is to strengthen literacy and mathematics components of curriculum by integrating technology into instruction and implementing a process to continually assess and improve the model. Provides on-site and online training to assist schools in implementing the design. Offers PD and curriculum resources, discussion areas, and online training modules.	First-year costs average $588,000 (covers PD, staff release time, and technology start-up). On average, schools of 500 pay $55,000 for each of the first 3 years.	Field tests show gains on standardized test and achievement scores. Longitudinal data can be obtained from participating districts and the developer.	Co-nect Schools (www.co-nect.net).
Onward to Excellence	K–12	An external study team (representatives from other schools, the central office, local universities, and the community) collects data and monitors improvement. School	The cost to schools in the first year is approximately $72,000 (covers one half of the 2-year PD fee, staff release time, one fourth	OTE schools across the country have shown improvements in student achievement. Research also shows that OTE has a	School Improvement Program (www.nwrel.org/scpd/ote).

Models	Grade Level	Main Features	Costs	Evidence for Success	Contact
		leadership teams (principal, selected school staff, community members, and students) guide the school through the process. Workshops over a 2-year period prepare leaders and ensure that each school can encourage continuous improvement on its own.	time facilitator's fee, and travel expenses). The cost of the training workshop is $15,000 for 2 years.	positive impact on roles and elationships in schools and districts.	
Success For All	Pre-K–8	Schoolwide restructuring program that affects curriculum, pedagogy, scheduling, resource allocation, PD, and family support services. A secret ballot endorsement of at least 80% of the school staff is a required part of the application process. Teachers are provided with detailed materials for use in the classroom. Students often work cooperatively.	First-year costs are approximately $270,000 (covers PD, staff release time, materials, and facilitator and tutor salaries). Lowered to $70,000 in subsequent years.	Studies show significant achievement progress. Compared to other Title 1 schools, retention and special education classes are reduced.	Regional Training Center (www.wested.org and www.successforall.net).
Classroom and curriculum reform models					
Core Knowledge	K–8	Pushes for a model national curriculum, built around the idea that U.S. schools need challenging academic standards to provide equal educational opportunity. Common core knowledge is provided in the early grades. An effective tool for lesson planning and sequenced learning is included.	The cost to schools in the first year is approximately $56,000 (covers PD, staff release time, materials, and membership fee).	Data show progress in students' motivation to learn, achievement scores, teacher communication and attitudes, and school participation.	Core Knowledge Foundation (www.coreknowledge.org)
Cooperative Learning	K–12	Enhances academic engagement and fosters positive relationships between students of diverse backgrounds. Teachers facilitate cultural and individual expressiveness by rewarding group efforts and encouraging students to resolve differences by working together. Cooperative efforts result in participants striving for mutual benefit so that all group members gain from each other's efforts.	Typical cost of training is $2,000 per day, with additional expenses for supplementary materials. Training usually lasts for 3 to 5 days.	Data indicate higher achievement and greater productivity, more supportive relationships, and improved psychosocial psychological competence.	The Cooperative Learning Center (www.clcrc.com/index.html)
Curriculum Compacting	1–12	Curriculum compacting is a process to streamline and modify the grade-level curriculum by eliminating material that students have previously learned. In doing so, all learners are challenged, and students who demonstrate high levels of achievement are provided with time for differentiated enrichment or acceleration activities.	Costs for training and materials range from $3,000 to $8,000.	Research documents the effectiveness of curriculum compacting, showing positive outcomes for both students and teachers.	The National Research Center on the Gifted and Talented (www.gifted.uconn.edu).
Direct Instruction	K–8	Learning can be accelerated if instructional presentations are clear, rule out misinterpretations, and facilitate generalizations. Each direct	The costs for a school on average is $65,000 to $75,000 per year for 3 to 5 years (covers curricular	Research shows effectiveness in three areas studied: basic skills, cognitive skills, and affective behavior.	National Institute for Direct Instruction (www.nigdi.org).

Models	Grade Level	Main Features	Costs	Evidence for Success	Contact
		instruction program is shaped through field tryouts, student errors are evaluated, and lessons are revised prior to publication. PD is provided through training and in-class coaching.	materials, PD, and release time).	Improvements are also shown for standardized tests and achievement.	
Enrichment Clusters	K–8	Enrichment clusters are groups of students who share common interests and who come together during specially designed time blocks. All teachers and teacher aides are involved in organizing the clusters, and numerous schools have also involved parents and other community members. Adult involvement in any particular cluster should be based on the same type of interest assessment that is used for students in selecting clusters of choice.	Requisite materials of each cluster dictate costs. Personnel costs are minimal, but after-school scheduling of clusters may affect this cost. Program costs have ranged from $0.50 to $5.00 per child per cluster session.	Attendance in school has been shown to improve on days in which clusters were held. Students develop stronger academic interests as a result of participation in clusters.	The National Research Center on the Gifted and Talented (www.gifted.uconn.edu).
Professional development models					
Comprehensive Professional Development Model	K–8	Comprehensive school reforms seek to provide schools and districts with sets of principles, guidelines, and materials that teachers and administrators can apply and adapt to bring about systemic reform. The model provides guidelines and procedures for extensive PD.	First-year costs are approximately $50,000 to $60,000. In general, costs can be covered by Title 1, state compensatory, and special education funds.		http://scov.csos.jhu.edu/crespar/crespar.html.
Different Ways of Knowing	K–8	The goals are to raise achievement and improve students' attitudes toward their school. The approach is built around a variety of research bases, including the following: cognitive research, the effects of early and sustained intervention, and motivation research. The model is a multiyear professional development program for teachers and administrators, which provides an integrated approach to curriculum, instruction, assessment, and reporting.	The cost to schools in the first year is approximately $84,000 (covers PD, staff release time, and additional services). The average cost per school year for each year of the 3-year implementation is $35,000.	Four rigorous assessments of student achievement outcomes have been conducted showing the strongest gains in language arts, mathematics, and reading scores.	The Galef Institute (www.dwoknet.galef.org).

Note. PD = professional development; OTE = Onward to Excellence.