School as a Context of Early Adolescents' Academic and Social-Emotional Development: A Summary of Research Findings

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Abstract

Successful youth development during adolescence is an intergenerational process, one in which youth are responsible for being open to and taking advantage of new experiences, and adults are responsible for providing youth with nourishing, growth-enhancing opportunities. In this article, we examine how adolescents perceive the nature of the opportunities they are provided by teachers and staff in middle school, and how such opportunities are related to changes in their academic and social-emotional functioning over time. Our findings indicate that specific instructional, interpersonal, and organizational dimensions of middle school life, as perceived by adolescents themselves, are associated in important ways with the quality and character of their education- and non-education-related development during the years of early adolescence.

Perhaps nowhere in the life span other than infancy is the interplay of individual and collective factors in the composition of a human life more pronounced than in the early adolescent period. During these years (ages 10–14), adolescents experience biological, cognitive, and social-emotional changes amid maturing relationships with parents, deepening peer relationships, and the transition to a new school. How well adolescents organize their developing biological and psychological capacities in conjunction with the evolving social, cultural, and historical circumstances of their lives is one essential factor in determining whether they stay engaged and perform well in school, develop positive peer relationships, and feel positive about themselves and their future (Eccles & Midgley, 1989; Erikson, 1950; Masten & Coatsworth, 1998). The quality of opportunities that adolescents are afforded

by adults in their families, schools, and communities for cultivating their academic and social aspirations, skills, knowledge, and commitments is a second essential factor in promoting adolescents' developmental success (Erikson, 1968). Both successful and problematic development during adolescence involves, as Erik Erikson said, the overall configuration of personal and social-historical factors (see Friedman, 1999).

Promise and Problem

Although it was once thought that most, if not all, adolescents experienced psychological problems as a general condition of their development during the second decade of life (e.g., Freud, 1936), it is now known that this is not the case. For instance, recent research suggests that more than half of all adolescents in the United States are able to constructively manage the multiple transitions in body, thought and emotion, social relationships, and school that are characteristic of the early to middle adolescent periods without experiencing any major problems (Dryfoos, 1990). For many, the early adolescent years are a time of exciting explorations in identity and the process of becoming comfortable with a maturing physical body; of continued closeness with a nurturing family, deepening mutuality with close friends and opposite-sex peers; and of continued engagement with school. The transition into middle level schools in particular heralds what is for many adolescents a time of expanding intellectual and social opportunities (Carnegie Council on Adolescent Development, 1989, 1995).

But if the early adolescent years are no longer conceived of as a time of normative "storm and stress" for youth, research has documented that early adolescence today is a time of more or less quiet distress for millions of America's young people. For instance, a distinguished panel of experts recently estimated that somewhere between 25% and 50% of all young people in the United States between the ages of 10 and 17 are at risk for curtailed educational, eco-

nomic, and social opportunities due to their engagement in high-risk behaviors and activities that include violence and vandalism, unprotected sex, abuse of alcohol and drugs, skipping and failing school, and so on (Carnegie Council, 1989, 1995). And 60% to 80% of the youth most at risk dwell in disadvantaged inner-city environments (McLaughlin & Irby, 1994). Currently the challenges to successful adolescent development are serious, and millions of U.S. young people are at serious risk for unsatisfying and unproductive lives.

An Intergenerational Perspective

From a perspective that views adolescents' developmental success as grounded in the surrounding social conditions of their development, the fact that a significant minority of adolescents are not doing well in terms of their academic achievement, social and behavioral choices, and mental health suggests serious problems not only *within* such youth but also *across* the broader cast of adults and institutions charged with helping them become full members of society. This was the view of Erikson (1968) who, in reflecting on the turbulence of the 1960s in the United States in his book *Identity, Youth, and Crisis*, reminded society's elders that "in looking at the youth of today, one is apt to forget that identity formation, while being 'critical' in youth, is really a *generational issue*" (p. 29). His 1968 treatise on adolescent identity development was meant to draw attention to his contention that adolescents' ability to organize the significant changes they experience during these years into a coherent and positive psychosocial identity was not simply a personal project but rather a collective and intergenerational responsibility of the adolescent and his or her parents, teachers, and community members.

Whereas Erikson's (1973) life-span theory of development clearly defined the life task of adolescence as the discovery of what one cared to do and who one cared to be, one of the life tasks he described for adult-

hood involved the discovery of whom one would take care of (p. 124). In this way, he articulated the interdependence of successful adolescent and adult development: he proposed that a major developmental life task of society's elders was to assist young people in progressing along fruitful educational, social, and moral lines of development that eventuated in their full participation in an ongoing cultural concern. The developmental life task of society's youth was to open outward to the opportunities of their times, to cocreate and perpetuate society in conjunction with their elders, and, sometimes, to reshape the future direction of society in spite of them (Erikson, 1969; Mead, 1970). In a 1970 article, Erikson described this notion of the interdependence of adolescent and adult development from the perspective of the child when he wrote that "an intricate relation between inner (cognitive and emotional) development and a stimulating and encouraging environment exists from the beginning of life, so that no stage and no crisis could be formulated without a characterization of the mutual fit of the individual's capacity to relate to an ever expanding life-space of people and institutions, on the one hand, and on the other, the readiness of people and institutions to make him part of an ongoing cultural concern" (p. 754). In Figure 1, we have depicted Erikson's (1968) notion that successful identity development in adolescence (and adulthood) involves the overall configuration of ego needs and the social ethos of families, schools, and communities during a particular moment in history. We have represented this notion using the ancient Chinese symbol T'ai-chi T'u—a symbol not necessarily designed to connote an idea but rather to motivate a contemplation (Capra, 1991). Here, we use it to motivate a contemplation of Erikson's contention that it is in the quality of the fit between the developmental needs of adolescents and the nature of the social opportunities afforded them by adults that one can find answers to the question of why a certain segment of
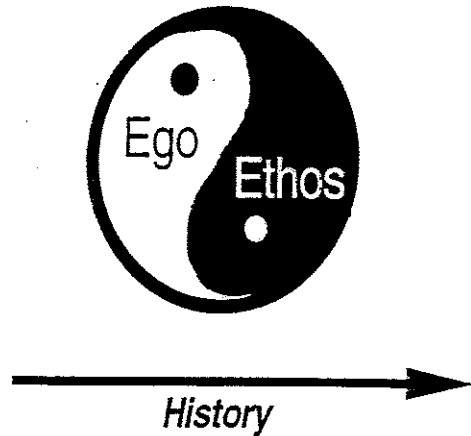
"Psychosocial Identity"

FIG. 1.—Tao of development: Erikson's notion of the coconstituative nature of ego functioning and social ethos in adolescent development.

U.S. adolescents are showing academic, social, and emotional success, whereas a substantial minority of young people today are not.

The problems characterizing millions of U.S. adolescents are rooted in debilitating social conditions that include poverty, lack of health care, the disappearance or uncertainty of work for family wage earners, family and community violence, discrimination, underfunded and overwhelmed schools, fragmented nuclear and extended families, and the absence of wholesome after-school and community programs for youth (Carnegie Council, 1989, 1995). Such conditions undermine adolescents' fulfillment of basic physiological needs (e.g., safety) and also their basic psychological needs for trusting and accepting relationships with adults and peers; for self-expression and exploration; and for developing their academic and social competencies in the direction of viable occupational, social, and romantic ends (Erikson, 1968). Such social conditions also frustrate (if not sometimes stimulate) the spiritual need Erikson often eluded to in his writings (see Friedman, 1999): the need to belong to something

bigger than oneself, to an ongoing, authentic, and in the best-case scenarios, compassionate, cultural concern (e.g., Erikson, 1969). When social conditions in a particular place, for a variety of historical reasons, do not afford to young people the fulfillments they seek for their needs, Erikson saw the seeds of rare moments of genius, creativity, and cultural renewal (Erikson, 1958, 1969), as well as the more common harvest of widespread social problems among the elderly and youthful alike (Erikson, 1950, 1968).

Positive Youth Development

Many researchers interested in adolescent development today focus, as Erikson once did, on understanding how, through the provision or absence of certain social opportunities, adults cultivate or frustrate positive identity formation and behavioral development during adolescence (Eccles et al., 1993; Jessor, 1993; Sameroff, Seifer, & Bartko, 1997). Recently, there has been a growing trend in this work toward positive visions of youth development in which the focus is on how, through social systems reforms, practitioners can cultivate developmental strengths and assets in young people (e.g., Carnegie Council, 1995; Cowen, 1991; McLaughlin & Irby, 1994). The many changes of the early adolescent period make it an ideal time for systemic reforms. Research has documented that current conditions in many families, schools, and communities do not afford adolescents developmentally appropriate opportunities for academic, social, and emotional growth, and also, more hopefully, that when families, schools, and communities do provide such opportunities, problems among youth are greatly reduced and strengths instilled (Carnegie Council, 1995; Eccles et al., 1993; McLaughlin & Irby, 1994). Thus, the early adolescent years have been aptly labeled "a turning point" and a "great transition" in that both promises and problems are potential outcomes of this period and beyond depending on the kind of care and opportu-

nities that adults and institutions afford to young people at home, in school, and during the out-of-school hours (Carnegie Council, 1989, 1995).

Middle Grades Schools

In this article, we focus on results from our own recent research efforts to understand how adults in one social institution, the middle grades school, can enhance adolescents' healthy identity formation and behavior during this period. Such healthy development is indicated by adolescents' academic achievement and good conduct in school, positive peer relationships, and positive self-related processes such as motivation to learn and mental health (Masten & Coatsworth, 1998). Middle grades schools have been hailed as one of the most important institutions within which to recapture the millions of American youth who, often because of difficult social conditions, are probabilistically more likely to show poor achievement and motivation to learn, poor conduct and affiliations with negative peers, mental health problems, or different combinations of these problems and others simultaneously during the early adolescent years (Carnegie Council, 1989, 1995; Dryfoos, 1990).

For researchers and practitioners interested in middle grades education, the challenge of cultivating positive youth development is the dual challenge of understanding, designing, and implementing schoolwide reform efforts that benefit all adolescents during this critical developmental period (e.g., Eccles, Lord, & Roeser, 1996; Midgely & Edelin, 1998) and targeted intervention and prevention programs that assist those subgroups of adolescents with specific vulnerabilities and needs (Adelman & Taylor, 1998; Dryfoos, 1998). Such a dual focus characterized many of the school reform efforts during the past century (Dryfoos, 1994; Hechinger, 1993), and a central assumption of such efforts has been that school, as a major context of child and adolescent development, has significant influ-

ences on the lives of young people that extend beyond the academic domain into their social and emotional functioning.

We believe that a dual focus on general school reforms and targeted school-based programs aimed at enhancing a variety of educational and noneducational outcomes will continue to be an important way of "recapturing" the millions of early adolescents with significant life problems well into the next century (Carnegie Council, 1995). For the remainder of this article, we provide an overview of some of what we have learned about how early adolescents' experiences in middle school are linked to psychological and behavioral aspects of their school and social-emotional functioning. We examine such links using a theoretical framework that shares much in common with Erikson's notion that it is in the nature of the fit between the needs of early adolescents and, in this instance, the kinds of organizational, instructional, and interpersonal experiences they have in middle school, that one can find part of the answer to the question of why some adolescents remain on track academically, socially, and emotionally during these critical years, and why some do not.

Two Aspects of "Lives in School Contexts"

Consistent with the view of adolescent development of Erikson that we briefly outlined above and depicted loosely in Figure 1, two general aspects of the developmental process have occupied us in our studies of adolescents' lives in middle grades schools (see Fig. 2). Specifically, we have been concerned with studying both (a) adolescents' psychosocial functioning as it relates to schooling at the level of the individual ("adolescent functioning"), and (b) the configuration between adolescents' psychosocial functioning and their experiences in middle school ("school social context") at the level of the individual in context. Erikson referred to such configurations as the "mutual complementation" of ego and ethos in
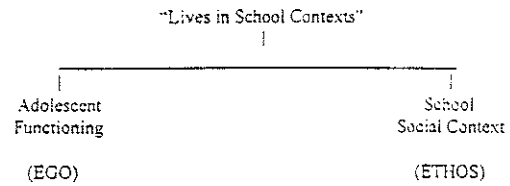

FIG. 2.—Two general aspects of the developmental process.

the developmental process (Erikson, 1968). Other have posited that such configurations define, at any particular moment in time, human behavior (Lewin, 1936), in any particular period, human development (Sameroff, 1983), and in any particular human life, a life history (Runyan, 1982).

Two Main Research Questions

Two research questions have occupied our interest in adolescents' lives in middle grades schools across time (see Fig. 3). First, in relation to adolescents' psychosocial functioning at the level of the individual, we have been interested in how two domains of functioning, labeled "school" and the "social-emotional," are interrelated during the early adolescent years. School functioning is conceptualized in terms of academic motivational beliefs (e.g., competence beliefs) and emotions (e.g., values), achievement, and in-school conduct. Social-emotional functioning is conceptualized in terms of general feelings of distress and well-being and quality of peer relationships. Consistent with motivational and personality models of human behavior, we use psychological indicators of school (e.g., motivational beliefs and values) and social-emotional functioning (e.g., general feelings of distress and well-being) to predict behavioral indicators of school (e.g., achievement and in-school conduct) and social-emotional functioning (e.g., peer affiliations) (see Fig. 4).

Second, we have looked at how adolescents' experiences in middle school are related to the quality of their school and social-emotional functioning within and over
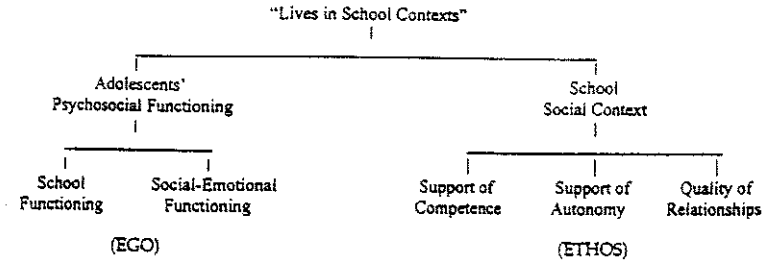
"Lives in School Contexts"

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                              Adolescents'                              School
                         Psychosocial Functioning                 Social Context

           School          Social-Emotional          Support of     Support of     Quality of
         Functioning         Functioning             Competence      Autonomy     Relationships

            (EGO)                                                  (ETHOS)
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FIG. 3.—Two specific aspects of adolescents' lives in school contexts

"Adolescent Functioning"

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              School                                    Social-emotional
            Functioning                                   Functioning

       Psychological Indicators                    Psychological Indicators
       Motivation to learn                         Emotional distress and well-being

       Behavioral Indicators                       Behavioral Indicators
       Achievement                                 Peer relationships
       In-school conduct

                              (EGO)
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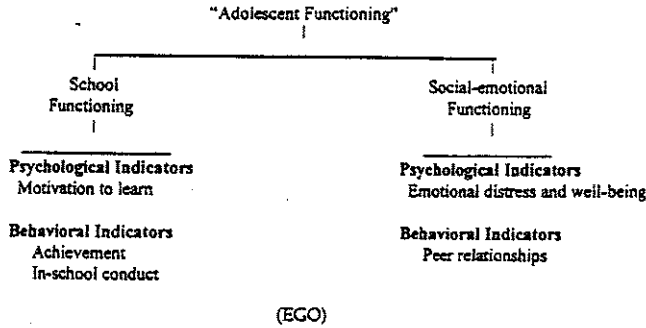
FIG. 4.—Two aspects of adolescent functioning

time. Our focus here has been on how specific instructional, interpersonal, and organizational processes in middle school, based on their fit or mismatch with early adolescents' implicit psychological needs for competence, autonomy, and quality relationships, are associated with aspects of their school and social-emotional functioning (e.g., Deci & Ryan, 1985; Eccles et al., 1993). Selected empirical findings bearing on each of these research questions are presented in this article.

Two Analytic Methods

Before turning to the substantive findings, it is important to mention that we have employed two types of statistical analyses to investigate these topics; those of a more "statistically nomothetic" nature that focus on relations among variables across the whole sample of adolescents, and those of a more "statistically idiographic" nature that focus on patterns of experiences and outcomes among particular subgroups of

adolescents (Allport, 1937; Runyan, 1982) (see Fig. 5).

Variable-centered, statistically nomothetic analyses are used to explore general relations among indicators of psychosocial functioning and middle school experience across the whole sample of adolescents (Magnusson & Bergmann, 1988). Such analyses can yield information on which school practices in general, from adolescents' points of view, seem to promote positive academic and social-emotional adjustment, thus making such practices possible foci of future schoolwide reform efforts.

Person-centered, statistical idiographic analyses are used to explore subgroups of adolescents who show unique configurations of psychosocial functioning and middle school experience (Magnusson & Bergmann, 1988). Such analyses, because they yield information on subgroups of adolescents with specific assets, vulnerabilities, and needs, might aid in decisions about how to target particular educational, health,
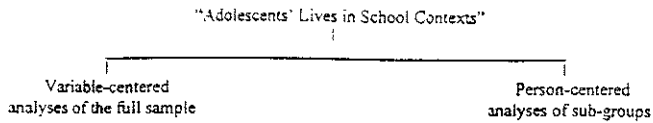
"Adolescents' Lives in School Contexts"

Variable-centered	Person-centered
analyses of the full sample	analyses of sub-groups

FIG. 5.—Two types of statistical analyses

and mental health programs in the schools to particular subpopulations of students.

Maryland Adolescent Development in Context Study (MADICS)

The data and participants for this report come from the original Maryland Adolescent Development in Context Study, a large longitudinal study that was part of the MacArthur Network on Successful Adolescent Development in High-Risk Settings (chaired by R. Jessor; see Jessor, 1993, for an overview). The study was designed to assess the influences of home, school, peers, and neighborhoods on early adolescents' academic, social, and emotional development (principal investigators, J. S. Eccles and A. J. Sameroff).

The original study included 1,480 primarily African-American and white families with an adolescent who was beginning seventh grade in middle school during the first wave of the study in 1991. These families resided in a large, geographically diverse county outside Washington, D.C. The adolescents attended a total of 23 middle schools: each school was part of one large, county-wide school district. Equal numbers of male and female adolescents participated in the study. Based on youth self-reports, 67% were African-American, 21% were white, and 12% reported a mixed racial-ethnic heritage. The sample is broadly representative of different socioeconomic levels, with the mean pretax family income of the participants in 1990 being between $45,000 and $49,999 (range: $5,000–>$75,000). White families ($M = $50–$55,000) reported slightly but significantly higher pretax incomes in 1990 than the African-American families ($M = $45–49,999; $t = 5.74$, $p < .001$), but the income differential in this county between blacks and whites was smaller than what it was in much of the rest of the country in 1990.

Caregivers and target adolescents were interviewed and surveyed in their homes by trained community members during the beginning of target adolescents' seventh- and the end of their eighth-grade school years. Interviewers and respondents were matched on race whenever possible. Academic achievement data were collected from students' school records at the end of each school year. For purposes of this article, we focus only on the African-American and white adolescents who participated in both waves of data collection. Currently, MADICS is ongoing, and data have now been collected through adolescents' high school and early adulthood years. The research we present here has been published in other places, and we summarize and slightly expand on these other reports here (Roeser & Eccles, 1998; Roeser, Eccles, & Sameroff, 1998).

Relations between School and Social-Emotional Functioning

Our first question focused on how adolescents' school and social-emotional functioning were related during the middle school years. Because researchers have recently focused a good deal of attention on the "new morbidities" of growing up—school failure and truancy, depressed mood, and negative peer affiliations (Dryfoos, 1990, 1994), and because research shows that these types of problems become more prevalent during the early adolescent period (Eccles et al., 1996), we tended to focus on indicators of these aspects of adolescents' psychosocial functioning in this article. We did, however, look at positive indicators of functioning

such as those measuring motivation to learn and academic achievement. In our first set of analyses, we examined how psychological aspects of early adolescents' evolving identities, including their self-perceptions of academic competence, valuing of school, and feelings of emotional distress in the prior month, predicted behavioral outcomes such as their achievement, in-school conduct, and affiliations with negative peers.

Measures

The academic competence scale we used tapped adolescents' self-perceptions of ability in different school subjects (e.g., How good are you at math?) and their ability to competently master the academic requirements of school (e.g., How well can you live up to what your teachers expect of you?). The valuing-of-school scale measured adolescents' perceptions of school as interesting, important, and instrumental in the fulfillment of other life goals (e.g., getting a good job later). The emotional distress measure assessed adolescents' self-reported feelings of anger, sadness, or hopelessness during the prior 2–4 weeks. Academic performance was measured by end-of-year, teacher-rated grade point average (GPA) in the core academic subjects (e.g., English, math, science, social studies). School problem behaviors were assessed for each school year via adolescents' self-reports. The school problem behavior scale was a weighted sum of items that assessed whether the adolescent had cheated on tests, skipped classes, fought in school, or brought drugs or alcohol to school during the school year. Items were weighted in this order of severity. The negative peer affiliations scale was based on adolescents' self-report of how many of their close friends were involved in problematic behavior within and outside the school setting (e.g., cheating on tests, skipping classes, stealing something worth more than $50, pressuring others to use drugs, and so on). These scales

all had acceptable reliabilities and were identical across waves of data collection.[1]

Figure 6 presents the results of multiple regression analyses in which psychological indicators of functioning and adolescents' demographic characteristics were used to predict their academic grades, school problem behavior, and affiliations with negative peers during the seventh and eighth grades.[2] These analyses included between 814 and 945 early adolescents for whom we had the most complete data at each grade.[3] It is important to note that the standardized regression coefficients that are presented in Figure 6 are adjusted for (net of) the effect of particular demographic characteristics of the adolescents and their families that were also included in these prediction equations. These demographic measures included educational level of head of household, occupational status of the head of household, 1990 pretax family income, and adolescents' race and gender.[4] Coefficients for these demographic characteristics are left out of the figures for purposes of clarity. Significant effects of the demographic factors on the outcome measures are described in the text.

Seventh-Grade Results

The demographic and psychological variables accounted for 38% of the variance in adolescents' seventh-grade GPA. Adolescents who were white, female, or who had parents with more education and income had higher GPAs than adolescents who were African-American, male, or who had parents with less education and income, respectively. In terms of the psychological indicators, adolescents' self-perceptions of academic competence emerged as a significant positive predictor of GPA, whereas emotional distress had a marginal ($p = .055$) negative predictive relation with later GPA.

In the prediction of adolescents' engagement in school problem behavior, we found that emotional distress predicted increased school problem behavior, whereas self-per-
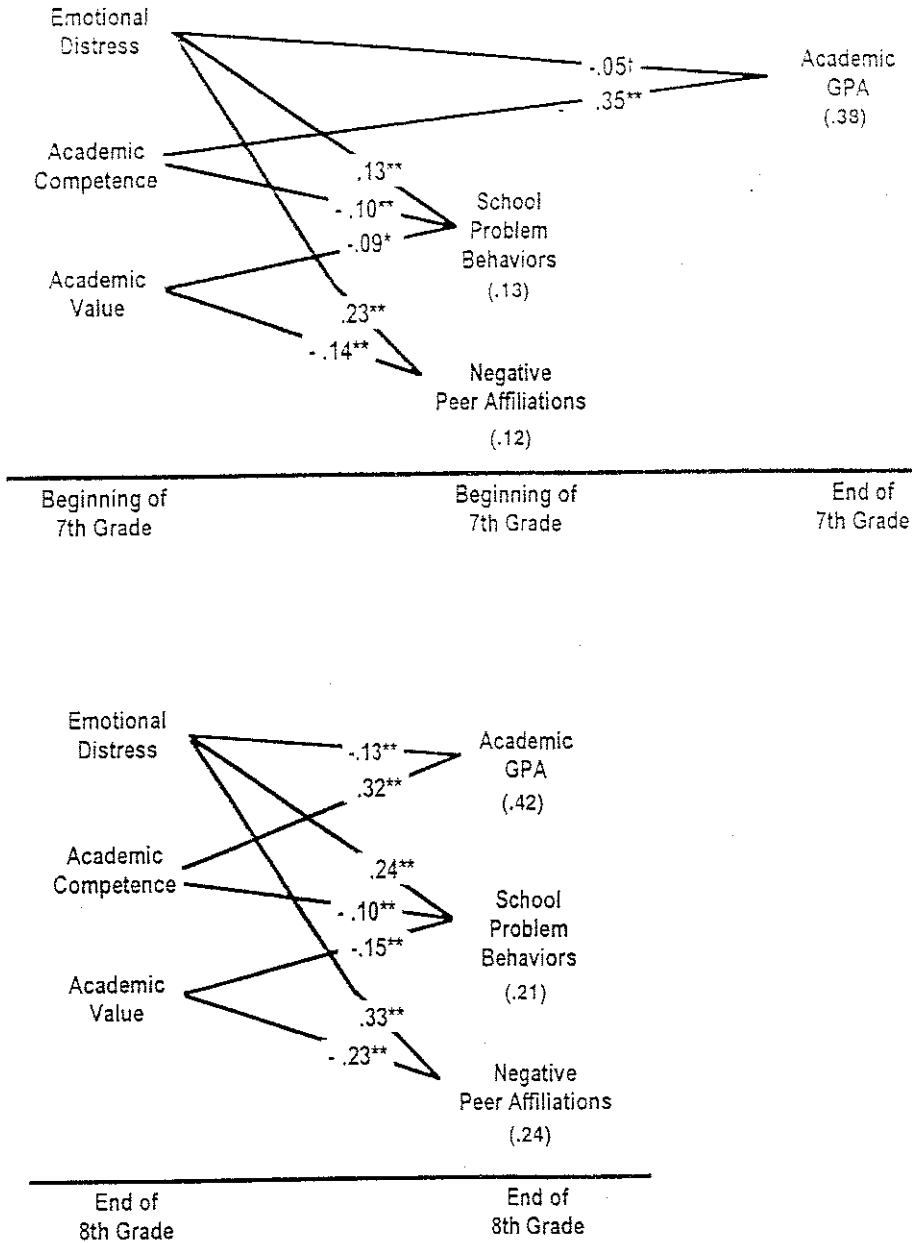
FIG. 6.—Prediction of achievement, school conduct, and peer relationships during middle school. Standardized regression coefficients are presented. Adjusted R^2s are presented in parentheses under each outcome measure. Demographic characteristics of the adolescent are controlled in these analyses. $^{\dagger}p = .055$; $^{*}p \leq .05$; $^{**}p \leq .01$.

ceptions of academic competence and valuing of school predicted decreased school problem behavior. These effects were found after accounting for adolescents' demographic characteristics. African-American and male adolescents reported more problem behavior in school than did their white and female counterparts, respectively ($p < .01$).

In the prediction of adolescents' affilia-

tions with negative peers, we found that emotional distress and poor valuing of school were associated with increased involvement with such peers. We also found that negative peer affiliations were more common among males than females ($p <$ .01).

Eighth-Grade Results

As one can see in the bottom portion of Figure 6, an identical pattern of relations between these psychological and behavioral indicators of functioning was found at eighth grade. We also note that an identical pattern of demographic effects on these outcomes was found at eighth grade. Thus, it appears that adolescents' demographic characteristics, their motivation to learn, and their emotional distress are related to their academic achievement, in-school conduct, and affiliation with problematic peers in similar ways during the middle and later middle school years. Finally, the pattern of results in Figure 6 was replicated when we substituted parents' ratings of their child's emotional distress for the adolescent self-report measures of distress.

That adolescents' self-perceptions of academic competence predicted higher subsequent achievement corroborates other educational research that shows reciprocal relations among self-perceived academic competence and actual performance (Bandura, 1993; Eccles, 1983). When adolescents perceive themselves as academically competent and able to master school-related tasks, they get higher grades, and when they achieve good grades, they feel more competent academically. The negative relation of emotional distress and academic grades corroborates other mental health research that shows emotional distress can impair children's and adolescents' ability to effectively learn in school (Blechman, McEnroe, Carella, & Audette, 1986; Nolen-Hoeksema, Girgus, & Seligman, 1986; Tesiny, Lefkowitz, & Gordon, 1980).

That adolescents' valuing of school predicted less involvement in school problem behaviors and with negative peers is consistent with other research on "school bonding" that finds both males and females who are committed to school engage in less problem behavior generally (Finn, 1989; Hawkins, Doueck, & Lishner, 1988). Our results support the notion that adolescents who find school interesting, important, and instrumental for attaining other life goals are less likely to cheat, to skip classes, to fight in school, or to gravitate toward peer groups that engage in and reinforce such maladaptive behaviors (Dishion, Patterson, Stoolmiller, & Skinner, 1991). We also found, perhaps not surprisingly, that adolescents who experience frequent feelings of sadness or anger are more likely to act out in these ways in school and to gravitate toward negative peer groups.

Longitudinal Relations

We next looked at the relations among a subset of psychological and behavioral indicators of functioning over time. We were interested in the direction of effects among these measures. For instance, we wondered if motivation to learn and academic achievement protect adolescents against feeling emotionally distressed at a later time. Alternatively, we wondered if emotional distress served as a risk factor for subsequent motivational and achievement difficulties in school. We chose to focus on the cross-time relations between adolescents' motivation to learn, mental health, and academic grades because we had three temporally lagged measures of these constructs in our study. Thus, this set of measures provided the best opportunity to explore causal relations over time.

To examine these direction-of-effect issues, we regressed adolescents' end of seventh-grade GPA on measures of motivation and emotional distress that were collected at the beginning of seventh grade. We then regressed measures of academic competence, valuing of school, and emotional distress that were collected at the end of eighth grade on the seventh-grade motivation, dis-

tress, and achievement measures. Thus, two sets of longitudinal relations were examined: the prediction of grades from previous motivation and distress and the prediction of motivation and distress from previous grades (holding constant prior levels of motivation and distress). A schematic representing the significant cross-time relations we found is presented in Figure 7. Demographic factors were once again accounted for in these statistical analyses. Such relations are not represented in Figure 7 for purposes of economy and clarity. The full set of standardized regression coefficients is presented in Table 1.

Results revealed a pattern of reciprocal relations between adolescents' academic competence beliefs, feelings of emotional distress, and academic grades over time. Adolescents who felt more emotional distress at the beginning of seventh grade showed lower grades 1 year later and lower self-perceptions of academic competence 2 years later. Such results further document the negative effect that feelings of emotional distress can have on adolescents' academic

motivation and achievement over time. We also found evidence for the opposite causal path: adolescents who felt academically competent, valued school, and received good marks at some point in seventh grade were less likely to feel emotionally distressed at the end of eighth grade. Such results further suggest the positive effects that adolescents' motivation to learn and academic achievement can have on their mental health over time.

Summary

Variable-centered results suggested some of the psychological reasons why adolescents show academic and social success or problems during these years. These reasons included whether adolescents reported feeling competent at learning, whether they found value in what they are asked to learn at school, and how they felt about their lives in general. It is important for teachers to realize that students' motives for particular actions in the classroom are often not mysterious: their motives are often precisely the kinds of beliefs, values,
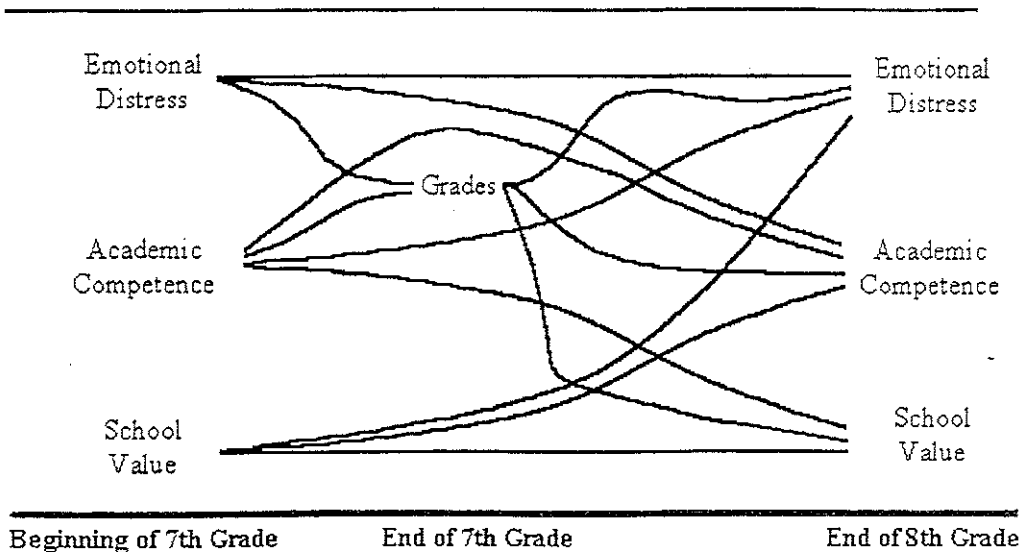

FIG. 7.—Reciprocal relations between school and social-emotional functioning over time. Significant multivariate relations are represented as lines. These relations were significant above and beyond the contributions of head-of-household educational and occupational status, pretax family income, adolescent's race, and adolescent's gender.

TABLE 1. Prediction of Seventh-Grade GPA and Eighth-Grade Academic Motivational Beliefs and Emotional Distress: Standardized Regression Coefficients and Adjusted R-Squares

	Outcomes			
Seventh-Grade Predictors	Seventh Grade (Academic GPA)	Eighth Grade (Emotional Distress)	Eighth Grade (Academic Competence)	Eighth Grade (Academic Value)
Emotional distress	− .05 *	.34**	. − .07*	. . .
Academic competence	.35**	− .10**	.37**	.13**
Academic value	.01	− .09**	.12**	.36**
Seventh-grade GPA	. . .	− .19**	.14**	.09*
Parental education status	.19**	− .05	.00	.03
Parental occupation status	− .03	.04	− .01	.01
Family pretax income 1990	.11**	− .02	.02	− .05
Gender (1 = female)	.28**	. . .	− .03	.08*
Race (1 = African American)	− .21**	.02	.04	.10*
Adjusted R^2	.38**	.26**	.28**	.24**

NOTE.—$N = 945$.
$^+p = .055$.
$^*p \leq .05$.
$^{**}p \leq .01$.
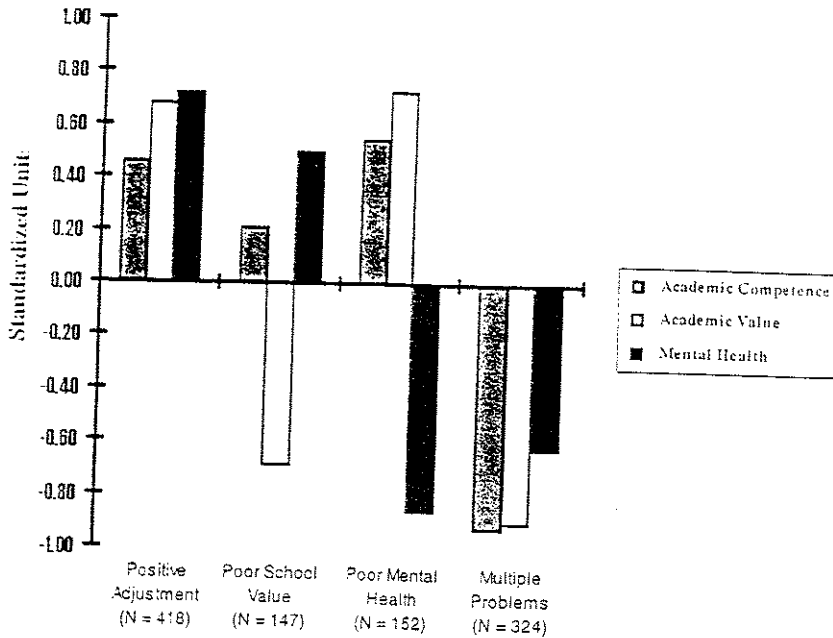
and emotions we have been examining here. That is, adolescents' decisions to engage in learning or not in the classroom depend in some measure on whether they feel able to meet the challenges presented them, whether they see purpose and value in classroom activities, and whether they feel safe and cared for by others in the setting. The challenge for middle school teachers is really not a question of getting students motivated or not but rather, in part, getting them to be motivated to learn rather than motivated to protect themselves from situations they perceive as threatening to their self, meaningless, or somehow threatening to their social image. Teachers' task in this respect is to shape adolescents' motivation to engage in fruitful intellectual activities and to harness social motivation for academic purposes. Teachers can enhance achievement-related motivation in the classroom by reinforcing adolescents' perceptions of competence through scaffolded skill development and feedback, by framing for them the value and purposes of activities, and by providing emotional support and encouragement during the learning process, especially when difficulties are en-countered. Social motivation can be harnessed through collaborative problem solving and group work that is carefully designed.

Patterns of School and Social-Emotional Functioning

Given these general relations among variables at the level of the whole sample, we next turned our attention toward identifying subgroups of adolescents who might show different patterns of school and social-emotional functioning. For example, we wondered if we could identify a group of adolescents who were sad or angry but who nonetheless remained engaged in school and stayed away from bad peer influences, or if we could identify a group of adolescents who seemed free of emotional distress but who nonetheless felt psychologically disengaged from learning in school. Person-centered, cluster analytic techniques were employed toward these ends. Such techniques assess the interdependence among variables within persons and thereby classify persons into relatively homogeneous groups based on their similarity across a series of measures (Magnus-

Adolescent Functioning	Positive Adjustment (N = 418)	Poor School Value (N = 147)	Poor Mental Health (N = 152)	Multiple Problems (N = 324)	F-Values
School Functioning					
Seventh Grade GPA	0.21 [a]	0.21 [a]	0.10 [a]	-0.39 [b]	$F_{(3, 994)} = 26.15$**
Percent Failing a Class	13% [a]	20% [a]	20% [a]	39% [b]	$\chi^2_{(3, 907)} = 60.93$**
School Problem Behaviors	-0.19 [a]	-0.09 [a]	0.03 [a]	0.29 [b]	$F_{(3, 950)} = 13.61$**
Social-Emotional Functioning					
Negative Peers	-0.27 [a]	0.00 [b]	0.00 [b]	0.27 [c]	$F_{(3, 1029)} = 17.47$**
Youth Report Self Esteem	0.49 [a]	0.17 [b]	-0.31 [c]	-0.56 [d]	$F_{(3, 1035)} = 91.77$**
Parent Reported Distress	-0.27 [a]	-0.06 [b]	0.02 [b]	0.35 [c]	$F_{(3, 1031)} = 24.39$**

FIG. 8.—Emergent patterns of school and social-emotional functioning at seventh grade. Student Newman-Keuls comparisons were used to test group differences. Different superscripts for a particular variable across clusters indicate a significant mean difference at the $p \leq .05$ level.

son & Bergmann, 1988). In this case, we clustered adolescents into subgroups based on their pattern of self-reported academic competence, academic value, and emotional distress during the beginning of seventh grade. For the remainder of this article, we reverse the "emotional distress" scale and call it "mental health" for purposes of clarity in figures and tables.

Describing the Clusters

The four clusters that emerged and were retained for analyses are depicted in the graph portion of Figure 8. The first pattern of school and social-emotional functioning was labeled "Positive Adjustment." Adolescents in this group were characterized by positive academic motivation and positive mental health (indicated by low emotional distress) and comprised 40% of the sample. The second group of adolescents showed relatively poor valuing of school but relatively positive perceptions of their academic competence and mental health (called "Poor Academic Value Group").

The third group was just the opposite. Labeled "Poor Mental Health Group," these adolescents showed positive school motivation but experienced relatively poorer mental health than each of the other three groups. Finally, a "Multiple Problems Group" emerged that included 31% of the adolescents in our sample. This latter group of adolescents reported feeling the least academically competent, saw the least value in school, and reported the second-highest level of emotional distress among the four groups. We examined the gender and ethnic composition of these groups and found two noteworthy things: first, white males were overrepresented in the poor value group, and second, white females and African-American males were overrepresented in the poor mental health group.

Concurrent Validity of Clusters

As a means of "validating" the clusters, we compared the groups on a series of indicators that were not used in creating the clusters (Aldenderfer & Blashfield, 1984). These indicators included adolescents' academic grades, the percentage of adolescents in each group whose parents reported they had failed or done very poorly in a class during the past year, and adolescents' self-reported problem behavior in school and affiliations with negative peers. We also compared the groups on two indicators of emotional functioning that were not used to form the groups: adolescents' self-reported self-esteem and parents' ratings of their adolescents' mental health.

School Behavior

As one can see in the table portion at the bottom of Figure 8, analyses of variance and post-hoc mean comparisons among all possible pairs of groups revealed that only the multiple problems group differed from the others in terms of their school-related behaviors. Compared to each of the other groups, this group of adolescents got poorer grades, were more likely to do poorly in or fail a class, and were more

likely to act out in school. The other three groups did not differ from each other on any of these measures. This latter finding supports a commonsensical but generally unacknowledged notion: different subgroups of adolescents arrive at their academic success in different ways—some are happy and some sad; some are genuinely engaged in the subject matter and some are bored; but all of those who achieved good grades also reported a sense of competence and efficacy in the academic domain (Bandura, 1993; Eccles, 1983).

Mental Health

Next, we compared the groups on the two additional indicators of social-emotional functioning. These results are also presented in the table portion at the bottom of Figure 8. More differentiation among the groups was found on these measures than on the school behavior measures. All of the groups, for instance, differed in terms of adolescents' self-reported self-esteem. Adolescents in the positively adjusted group reported the highest levels of esteem, followed sequentially by the other three groups. In addition, parents of adolescents characterized by low academic value or poor mental health also reported poorer mental health in their children compared to the parents of positively adjusted adolescents. Adolescents characterized by multiple problems were rated by their parents as having the poorest mental health of any of the adolescents. Finally, we found that the well-adjusted adolescents were the least likely to affiliate with negative peers, whereas the multiple-risk youth were the most likely to affiliate with peers who skipped school, stole things, and so on. In sum, the four subgroups of adolescents, each showing a unique pattern of motivation and mental health, differed in theoretically and substantively meaningful ways on the validation measures of achievement, conduct, peer relationships, and mental health. Thus, examining how patterns of psychological processes configure with pat-

terns of manifest behavior among different subgroups of adolescents is one useful way of studying what Erikson called psychosocial functioning and others now call developmental competence, resilience, and maladjustment during adolescence (Masten & Coatsworth, 1998).

Predictive Validity of Clusters

The next series of analyses compared these four groups, formed at the beginning of seventh grade, on their academic motivation and mental health 2 years later. We wanted to see if the profiles found at seventh grade remained stable over time. Results showed the same pattern of differences in motivation and mental health among the groups at eighth grade as was found at seventh grade. In short, the clusters remained fairly stable over time, though the magnitude of the between-group differences in motivation and mental health diminished over time (see top portion of Fig. 9).

Summary

Our person-centered results support the idea that psychological and behavioral indicators of risk, including poor motivation to learn, poor mental health, poor grades and academic failure, school misconduct, and affiliations with negative peers all tend to co-occur in what is a substantial minority of adolescents (Carnegie Council, 1989; Dryfoos, 1990). These problems characterized about one-third of our sample (e.g., Multiple Problems Group). By contrast, we also found that positive motivation and mental health, positive achievement and school conduct, and abstention from affiliating with bad crowds co-occurred in a substantial minority of positively adjusted youth. Such well-adjusted youth comprised 40% of our sample.

That both problems and assets co-occur among subgroups of early adolescents suggests that a constellation of favorable and unfavorable developmental outcomes is likely linked to a common set of underlying processes, intrapsychic and social in nature. Considering the multiproblem youth in particular, our results support the idea that rather than designing unique interventions for each unique developmental problem, a single set of interventions focused on building academic skills and motivation and teaching adolescents strategies to deal with emotional, academic, and social setbacks would potentially address a diversity of problems including academic failure, truancy, peer problems, and so on (e.g., Hawkins et al., 1988). Designing single interventions aimed at these kinds of outcomes could eventuate in significant cost savings and ease of implementation in the next generation of school-based programs. The results for the multiple problems group also highlight the fact that for many "high-risk" adolescents, school reforms are not going to be enough to help them get back on track academically and school-linked services are an important adjunct to such reform (Adelman & Taylor, 1998).

Results of the person-centered analyses also suggested that academic motivation is a key factor in understanding how some early adolescents who experience significant emotional distress can nonetheless stay on track academically. In our study, youth in the poor mental health group continued to get good grades, follow the rules in school, and avoid affiliations with negative peers despite feeling sad, angry, and unhappy. Both the variable- and person-centered results support the idea that feeling academically competent and valuing school were two intrapsychic resources that may have helped such youth overcome other life adversities that often threaten the attainment of a good education. Understanding more about how and why such students manifest this pattern, as well as the kinds of school experiences that might promote such resilience is a fruitful avenue of future research and one we discuss more fully below (Luthar, 1995). At this point, it seems plausible to conjecture that educators who assist their adolescent students in developing

their motivation to learn as well as their academic skills and knowledge are providing them with intrapsychic resources that can protect them against social-emotional problems contemporaneously and in the future. Perhaps the best mental health intervention teachers can implement in middle schools is good teaching.

Finally, our person-centered results support the idea that sometimes poor valuing of school is a marker for broadband difficulties (e.g., the multiple problems group), and sometimes low school valuing is an indicator that students who are otherwise doing well are just bored with their schooling (e.g., the poor academic value group). Poor valuing of school has been linked to a host of problems that become more prevalent in adolescence, including the "major negative outcomes" described by Dryfoos (1990): dropping out of school, drug and alcohol use and abuse, involvement in delinquent activity, and pregnancy. Our results suggest that knowing whether an adolescent feels "bonded to school" is not enough to indicate whether he or she is at risk for other behavior problems—it depends on whether poor school values are accompanied by low perceived academic competence and frequent feelings of emotional distress, among other things (e.g., socioeconomic factors; see Roeser et al., 1998, for a description of demographic characteristics of this group).

In our discussions of middle school reforms, we must be balanced in attending to the needs of high-risk students as well as those who, like these adolescents showing poor valuing of school, show acceptable but not optimal functioning in school. Indeed, if we do so, we often find that the educational changes that could promote optimal adjustment in most youth also could serve as interventions for high-risk students. After all, we do not just want high-risk students to be ready to learn or for students to get high grades, we also want all students to develop a love of learning. How to promote a valuing and love of learning in mid-

dle schools is a topic we turn to in the next section where we further explore and discuss how middle grades educators, through particular policies and practices, may be able to promote academic, social, and emotional health and well-being in all students as well as counteract problems in these areas among particular subgroups of students.

Adolescent Functioning and the Perceived School Context

The second focus of our research has been concerned with describing and understanding how adolescents' experiences in middle school are related to the quality of their academic *and* social-emotional functioning within and over time. To understand how adolescents' psychosocial functioning is related to their experiences in school, we drew on contemporary theories of human motivation. In particular, like others, we have found it useful to conceptualize the middle school from the adolescents' perspective in terms of how well aspects of the school ethos provide a "fit" with their implicit psychological needs for competence, autonomy, and quality relationships with others (Connell & Wellborn, 1991; Deci & Ryan, 1985; Eccles et al., 1993). The theoretical argument is straightforward: to the extent that adolescents perceive teachers and school staff as providing them with opportunities to develop their academic and social competencies, to exercise autonomous control over aspects of their learning, and to feel cared for and supported during learning, adolescents' perceptions of their academic competence, their valuing of school, and their emotional well-being should all be enhanced. Such psychological resources, as we have already described, in turn promote achievement, good conduct, and positive peer relationships (for review, see Eccles, Wigfield, & Schiefele, 1998). In contrast, to the extent that adolescents perceive teachers and staff creating environments that potentiate feelings of self-consciousness and incompetence, control, and

interpersonal anonymity or disrespect, then we hypothesize that adolescents will feel less motivated to learn and more unhappy and will be more likely to manifest academic and social problems (Connell & Wellborn, 1991; Deci, Vallerand, Pelletier, & Ryan, 1991; Eccles & Midgley, 1989).

This motivational perspective is similar to the configural approach of Erikson, who was concerned with how the psychological construct of identity, in some more or less adaptive arrangement with prevailing social circumstances, produced behavioral outcomes. Erikson (1968) too focused on basic needs and environmental affordances. He believed that the basic needs and life tasks that characterized infancy and childhood were later reworked during adolescence—the second time in relation to adult roles, responsibilities, and social relationships rather than childhood ones. For Erikson (1968), the previous developmental issues that were reworked during adolescence revolved around trust versus mistrust; autonomy and initiative versus shame, doubt, and guilt; and competence versus inferiority. Issues of interpersonal trust were reworked in terms of adolescents' development of faith in particular institutions and adult role models; issues of personal autonomy were reworked in terms of adolescents' commitments to particular ideologies and activities; and issues of academic and social competence were reworked in relation to occupational and social roles toward which adolescents aspired (Erikson, 1968). Erikson's basic themes in adolescent identity development were similar to the kinds of implicit, basic psychological needs motivational theorists focus on today in studying successful adolescent development: the need for trusting and caring relationships, the need for autonomous self-expression, choice, and decision making; and the need for challenge and competence development (Deci & Ryan, 1985; Eccles et al., 1993). In both approaches, adults are seen as responsible for providing adoles-

cents with opportunities that fulfill their needs in healthy and productive ways.

Consistent with the idea that it is in the "fit" or "mismatch" between personal needs and social opportunities that developmental outcomes are forged (Eccles & Midgley, 1989), we have assumed that adolescents, when in school, implicitly attend to questions such as: (1) How do students become successful in this school and am I successful here? (associated with the need for competence); (2) What kinds of opportunities for self-expression, choice, and decision making are there for me in this school? (associated with the need for autonomy); and (3) Do I feel cared for and respected as a person in this school by teachers, staff, and other students? (associated with the need for quality relationships).

Like others, we use adolescents' perceptions to assess the school social context. We developed survey measures of adolescents' perceptions of various dimensions of school life that we assumed were related to either the fulfillment or the frustration of their implicit psychological needs. We then examined how these perceived school features were associated with psychological indicators of adolescents' school and social-emotional functioning over time. This reflects our interest in active, meaning-making students whose perceptions of the school environment, beliefs, values, and emotions mediate the influence of the actual school environment on their academic and social behavior (Ford, 1992; Ryan & Grolnick, 1986). A summary of the school perception measures is presented in the appendix.

Table 2 presents a conceptual summary of a series of variable-centered, multiple regression analyses in which we examined the multivariate effects of different school perceptions on changes in adolescents' motivational beliefs and mental health over time. In Table 2, plus signs (+) indicate school perceptions that were linked with changes in outcomes that were developmentally healthy over time, whereas minus signs (−) indicate school experiences that

TABLE 2. Summary of School Perception Effects

Predictors: School Perceptions	Change in Outcomes: Seventh to Eighth Grade		
	Mental Health	Academic Competence	Academic Value
Support of competence:			
Positive teacher regard	+	+	+
Emphasis on relative ability	−		−
Emphasis on mastery and effort			+
Support of autonomy:			
Meaningful curricula		+	÷
Class autonomy provisions			
Quality of relationships:			
Teacher emotional support			+
Negative treatment by race	−		−
Negative treatment by gender	−		−

were related to unhealthy developmental changes over time. A more thorough description of these results can be found in the original research report (see Roeser et al., 1998).

As summarized in Table 2, we found that those adolescents who perceived (1) their school as emphasizing competition and relative ability as the hallmark of success; and (2) their teachers and staff as treating them disrespectfully due to their race or gender also reported declining mental health and motivation to learn over time. We also found that these perceptions of middle school were associated with increased school problem behavior and increased affiliations with negative peers across the middle school years after accounting for adolescents' demographic characteristics. Such results suggest that when adolescents perceive their teachers and school leaders as promoting competition and social comparison among students, and when they feel like they are mistreated because of their race or gender by adults in schools, they are less motivated to learn, feel more unhappy, act out more, and are more likely to gravitate toward negative peers over time.

On a more positive note, our results also suggested that those adolescents who perceived (1) their schools as emphasizing task

mastery and self-improvement as the hallmarks of success; (2) their teachers as having positive regard for their academic ability; (3) the curriculum in the core subjects as meaningful and relevant; and (4) their teachers as being available to assist with emotional problems—also showed increased motivation to learn and better mental health over time. That is, these experiences were related to the precursors of positive academic and social behavior, though not directly to these behaviors per se.

Summary

These variable-centered analyses provided us with a catalog of school features, as perceived by adolescents, that were linked both positively and negatively to indicators of school and social-emotional functioning across the whole sample. By and large, these results were consistent with findings from other studies on how dimensions of the ecology of secondary school can affect adolescent development (see Deci et al., 1991; Eccles & Midgley, 1989; Good & Weinstein, 1986; Maehr & Midgley, 1991; Rutter, 1983). They were also consistent with the notion of a person-environment "fit" underlying successful developmental outcomes (e.g., Eccles et al., 1993; Erikson, 1970). Adolescents who perceived their

middle schools as (1) defining academic success and supporting the development of competence in a noncomparative, noncompetitive way; (2) supporting autonomy through provision of meaningful curricula; and (3) having caring, respectful teachers also showed improved academic, social, and emotional functioning over time.

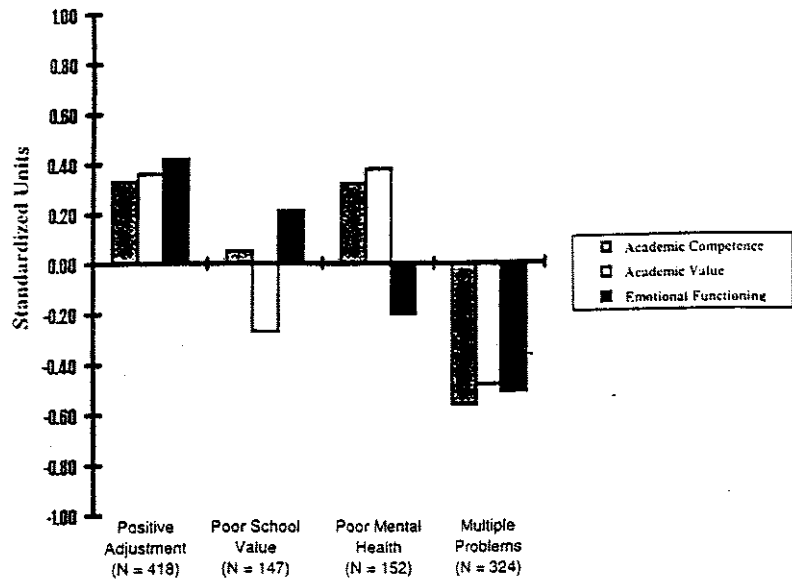## Patterns of Adolescent Functioning and Perceived School Contexts

The final set of findings we present here is concerned with how perceived school experiences during eighth grade differed among the four groups of adolescents described earlier (see Fig. 8). That is, we wanted to go beyond general relations among these variables at the aggregate sample level to see if we could link specific school experiences with subgroups of adolescents who were characterized by specific patterns of assets and vulnerabilities. Recall that the patterns of motivation and mental health that emerged during seventh grade remained constant over the 2 years of the study and still differentiated these four groups of adolescents from one another in terms of their school and social-emotional functioning during the eighth grade.

Figure 9 presents the clusters at eighth grade, as well as group differences and statistical comparisons between these groups on the school perception variables. Note that the school perception and the motivational and mental health measures depicted in Figure 9 were collected at the same time, during the end of adolescents' eighth-grade school year in middle school. Three findings are worth highlighting here.

First, perhaps not surprisingly, adolescents characterized by "multiple problems" (e.g., poor motivation to learn, poor mental health, and poor academic and social behavior) also reported the most consistently negative, developmentally inappropriate school environment of any of the adolescents. For instance, these youth reported the most competition and greatest emphasis on relative ability in their schools, as well as

the most frequent (though still relatively infrequent) experiences of mistreatment based on their race and gender at school by teachers and other school staff. In addition, compared to adolescents in the other groups, these youth felt that their teachers had the lowest regard for them academically, they perceived their academic work as the least meaningful, they reported the fewest opportunities for autonomy in the classroom, and they felt the least emotional support from teachers. In short, these alienated youth reported the most alienating school social ethos of any of the adolescents in our sample. Not surprisingly, we also found that disproportionate numbers of these youth with multiple problems were in what could be considered low-track or remedial classes in school based on parents' reports of their course-taking patterns (Oakes, Gamoran, & Page, 1992).

Although the negative psychological state of these youth may have colored their perceptions of school, we believe these results have substantive meaning. Other research has documented that low-achieving youth (most of whom are placed in low-ability classes) often experience classrooms that are characterized by poor opportunities to learn, low expectations, unimaginative curricula, and teacher control (Fine, 1991; Kagan, 1990; Oakes et al., 1992). Although grouping alienated youth together in low-track classes presents a challenge to teachers, and although misconduct and poor motivation on the part of such students can no doubt influence teachers' decisions about curricula and their use of controlling practices in the classroom (Oakes et al., 1992; Skinner & Belmont, 1993), it also seems plausible that the kinds of experiences reported by these students in school deepen their motivational, emotional, and behavioral difficulties. That new teachers are often assigned to the low-track classes that serve such students, assignments that are among the toughest in any school, likely exacerbates unproductive cycles of student

School Perceptions	Positive Adjustment (N = 418)	Poor School Value (N = 147)	Poor Mental Health (N = 152)	Multiple Problems (N = 324)	F-Values
Positive Teacher Regard	4.09 [a]	3.85 [b]	3.96 [ab]	3.50 [c]	$F_{(3, 1031)} = 24.31^{**}$
Emphasis on Relative Ability	2.36 [c]	2.63 [ba]	2.53 [bc]	2.80 [a]	$F_{(3, 1025)} = 17.37^{**}$
Emphasis on Mastery / Improve	3.82 [a]	3.53 [b]	3.81 [a]	3.54 [b]	$F_{(3, 1024)} = 12.44^{**}$
Meaningful Curricula	3.26 [a]	2.96 [b]	3.29 [a]	2.95 [b]	$F_{(3, 1026)} = 16.30^{**}$
Class Autonomy Provisions	3.40 [a]	3.23 [b]	3.44 [a]	3.20 [b]	$F_{(3, 1027)} = 6.86^{**}$
Teacher Emotional Support	2.96 [a]	2.44 [b]	2.98 [a]	2.58 [b]	$F_{(3, 901)} = 10.71^{**}$
Differential Treatment by Race	1.41 [c]	1.44 [bc]	1.62 [b]	1.79 [a]	$F_{(3, 1024)} = 15.64^{**}$
Differential Treatment by Gender	1.45 [b]	1.55 [b]	1.74 [a]	1.81 [a]	$F_{(3, 1023)} = 16.88^{**}$

FIG. 9.—Patterns of functioning at eighth grade and perceptions of school. Student Newman-Keuls comparisons were used to test group differences. Different superscripts for a particular variable across clusters indicate a significant mean difference at the $p \le .05$ level.

failure and teacher frustration (Oakes et al., 1992).

A second set of interesting findings from these analyses concerned the poor mental health group: those adolescents who continued to be engaged and do well in school despite emotional difficulties. These adolescents reported relatively more frequent experiences of mistreatment by teachers or other school staff predicated on their race or gender than did the first two groups of adolescents. Interestingly enough, as noted earlier, African-American males and white females were also overrepresented in this group. Why do these two groups feel singled out in a negative way by teachers and school staff? Could such (perceived) mistreatment contribute to their high distress, especially given their commitment to school? Researchers are only beginning to explore the effects of differential treatment by race and gender on adolescent functioning (e.g., Fine, 1991; Sadker & Sadker, 1994; Tatum, 1997), but our results suggest that

such experiences of mistreatment, though relatively infrequent, nonetheless have an emotional effect on adolescents, particularly the African-American males and white females in our sample. Similar issues and findings have recently been discussed in relation to issues of sexual harassment in secondary schools (Lee, Croninger, Linn, & Chen, 1996).

Understanding sources of discrimination in schools, whether based on gender, race/ethnicity, or other social status-related categories, as well as how to eliminate such sources, is an important topic for continued future research and one that could inform educational practice in important ways. Such research must focus on both peer to peer and teacher/staff to student forms of discrimination (Wong & Eccles, 1996). Additionally, it must focus on both explicit interpersonal forms of discrimination as well as on implicit or silent aspects of the curriculum and organizational norms, rules, and policies that reinforce inequality or injustice (e.g., Fine, 1991; Sadker & Sadker, 1994; Tatum, 1997).

A third set of findings from the person-centered analyses that deserves mention concerns those adolescents characterized by poor valuing of school. These students were more likely to report meaningless curricula, few opportunities for autonomy, and low teacher emotional support compared to their peers. These factors have been linked to low valuing of school in other studies and may have undermined these adolescents' attachment to school (Deci & Ryan, 1985; Goodenow, 1992; Hawkins et al., 1988). As suggested by the experiences and adjustment of the positive adjusted youth (group 1), the creation of communities of learning with meaningful curricular tasks that allow students to assume control over aspects of their learning does seem possible and essential not only for getting students to perform at high levels but also in helping them to develop a lifelong value for and love of learning.

Summary

The results of these person-centered analyses provided a more differentiated picture of how certain school experiences are linked to certain patterns of adjustment among subgroups of adolescents. Supporting the notion that schools can enhance healthy development through the opportunities they provide, we found that the largest group in our sample were well-adjusted adolescents who reported a noncomparative, noncompetitive school environment that focused instead on improvement and mastery, autonomy, meaningful work, and caring relationships between teachers and students. However, we also found that the opposite is true. The second largest group, youth with multiple problems, perceived a school environment antithetical to their needs for competence, autonomy, and relatedness. These youth also showed the most academic and social problems. Although we cannot be certain of the causal direction of these findings, together they support the notion that when school experiences "fit" students' needs, successful development is enhanced and when they do not, problems ensue.

In sum, the utility of the person-centered analyses lies in their capacity to document how particular patterns of adjustment among youth are configured with particular instructional, interpersonal, and organizational experiences adolescents report having in middle school. Thus, research using such analyses may ultimately aid in the targeting of specific reform and health-promotion efforts to subgroups of students. Certain groups of students appear to require changes in the nature of the curriculum in order to be brought more fully into the educational process (e.g., poor value group); others a reduction in school-based discrimination (e.g., poor mental health group); and still others seem to need both widespread school reforms and additional services that extend beyond the classroom (e.g., multiple problems group).

Summary: Two Aspects of Adolescents' "Lives in School Contexts"

The research we reviewed here focused on two aspects of adolescents' lives in school contexts: the relation of school and social-emotional functioning at the individual level, and the relation of school experiences to school and social-emotional outcomes at the level of the individual-in-context (see Fig. 2).

Our findings concerning the left branch of our interests showed that during early adolescence, psychological and behavioral assets and risks are related in meaningful ways. Adolescents' perceptions of academic competence, valuing of school, and emotional health all were important predictors of their grades, their conduct in school, and the quality of their peer relationships. We found that many psychological and behavioral indicators of maladjustment accumulate in a substantial minority of young people during early adolescence (e.g., multiple problems group, 31% of sample) but also that the majority of the adolescents in our study showed at least some, if not many, psychological and behavioral assets. Adolescence is not a normative time of storm and stress, but many adolescents appear more or less quietly distressed.

Understanding adolescent development from a process-oriented, motivational perspective where psychological beliefs, values, and emotions are seen as important precursors to achievement, conduct, and peer relationships is an important direction for future research (Masten & Coatsworth, 1998) as well as an important perspective that can assist teachers in understanding the actions of their students. At the level of the individual, these processes represent the motives for specific manifest behaviors in the academic and social domains of functioning.

The second branch of our research focused on adolescents' phenomenological experience of school. We assumed that adolescents made meaning of their middle grades school implicitly, at least in part, in terms of how good of a "fit" there was between the kinds of developmental opportunities they desire and need and their experiences in the classroom and in the school as a whole. We assumed that adolescents have a need to develop their intellectual competencies and knowledge in an atmosphere that is noncomparative and nonjudgmental; that they have a need to express their opinions and exercise some control over the learning situation; and that they have a need to feel respected and cared for by teachers and classmates alike. To the extent that adolescents' school experiences "matched" these kinds of developmental needs, we assumed they would be more likely to feel academically motivated, to get good grades and follow the rules in school, to feel a sense of well-being, and to avoid getting involved with a "bad crowd."

Generally, our results, especially the person-centered results, supported these contentions. When adolescents perceived an emphasis on comparison, competition, and differential treatment by teachers based on gender or race, they were more likely to withdraw or act out in school. Such practices are clearly antithetical to the needs of early adolescents. In contrast, when adolescents perceived an emphasis on improving their ability rather than proving it compared to others; when they felt they had a voice and some choice in their classrooms; and when they perceived supportive and respectful teachers, they were more likely to "bond" with school and were less likely to "bond" with peers who were alienated from school and other social institutions (see Rutter, 1983).

These empirical findings lead to a larger theoretical idea that deserves mention once more: in order to understand the factors that contribute to positive and negative youth development, researchers must maintain a broad vision and focus on the overall configuration of the developmental needs early adolescents have and the social supports and opportunities adults and in-

stitutions provide. Identity and community development are inextricably related in history, and successful adolescent and adult development are inextricably related in each generation. Erikson described these interdependencies when he noted in a 1973 Jefferson Lecture Series:

> From the point of view of development, I would say: In youth you find out what you *care to do* and who you *care to be*— even in changing roles. In young adulthood you learn whom you *care to be with*—at work and in private life, not only exchanging intimacies, but sharing intimacy. In adulthood, however, you learn to know what and whom you can *take care of* . . . what in Hinduism is called the maintenance of the world, that middle period of the life cycle when existence permits you and demands you to consider death as peripheral and to balance its certainty with the only happiness that is lasting: to increase, by whatever is yours to give, the good will and the higher order in your sector of the world. (P. 124)

Understanding how to shape policy and institutions so as to increase "goodwill" and the "higher order" so as to better meet the needs of school-aged populations represents an essential, contemporary, and ongoing challenge that must be addressed by adults in the United States (Carnegie Council, 1995). Issues of child poverty and ethnic diversity will continue to be a central aspect of this challenge of providing developmentally appropriate education, health and human services, and so on in the coming decades (Adelman & Taylor, 1998; Carnegie Council, 1995; McLaughlin & Irby, 1994).

The utility of conceptualizing the social environments that youth inhabit in terms of affordances that more or less address their needs for competence, autonomy, and relatedness is one important way to frame such policy debates and discussions. One value of this approach lies in the fact that a common set of contextual features hypothesized to underlie both academic

and social-emotional functioning can be examined across a variety of settings (i.e., home, school, peers) and developmental periods (Connell & Wellborn, 1991; Eccles et al., 1993, 1996; Eccles, Early, Fraser, Belansky, & McCarthy, 1997). Another value of this approach is that it encourages one to look at changes in school environments through a developmental lens. As students move from elementary to middle school, the environment often becomes less supportive of their developmental needs and thus can precipitate declines in motivation and achievement (Eccles et al., 1993). In the research reported here and elsewhere, a similar process seems to occur among adolescents as they move through middle school (e.g., Midgley & Edelin, 1998). Understanding the needs of youth at different points of development, and how adults and institutions can best provide the nutriments to growth at different points that "fit" the needs of the child, is one useful way of conceptualizing the problem and the solution of how best to promote successful youth development (e.g., McLaughlin & Irby, 1994).

Implications for Practice

What implications do these results, drawn from an "adolescent's-eye view of middle school," have for the design and practice of middle grades education? Recall that we believe that schools in the twenty-first century will need to continue to focus on a dual mission: (a) providing classroom and school environments that address the developmental needs of all students and (b) providing a "hub" for additional support services needed to ensure that high-risk students get on track academically toward a successful future (Adelman & Taylor, 1998; Dryfoos, 1994).

Before suggesting some possible implications, it is important to emphasize that we did not focus on teaching and administration in the research reported here and thus, any discussion of implications is tentative at best. For if school leadership, teaching,

and learning truly are, in the best-case scenario, a series of "assisted performances" in which the more expert assist the less expert to develop their skills and understandings along a fruitful line of inquiry and practice (Dewey, 1902/1990; Tharp & Gallimore, 1988), then effective schools for early adolescents necessitate effective work environments for middle grades teachers, effective management environments for middle grades principals, and so on up the educational administration hierarchy (Maehr & Midgley, 1996; Talbert & McLaughlin, 1999).

Educators' phenomenological experiences of their work environment in terms of the quality of leadership, resources, and the student body are crucial factors that affect their teaching and, thereby, their adolescent students' experience of schooling and quality of functioning (Lee, Bryk, & Smith, 1993). Thus, linking the study of adolescents' experience, motivation, and behavior in school with the study of their teachers' experience, motivation, and behavior at school is clearly needed to understand how to create middle schools that work, middle schools in which successful adolescent and adult development are seen and treated as interdependent. It seems clear that creating professional work environments where teachers feel supported by other professionals and school leaders in relation to their own needs for competence, autonomy, and quality relationships is essential to their decisions to create these conditions for students (Deci et al., 1991; Maehr & Midgley, 1996; Tharp & Gallimore, 1988).

With that said, our results suggest several things teachers and school leaders might consider in relation to their everyday practice as a means of enhancing positive academic, social, and emotional development among youth and redressing problems in high-risk youth. First, our results highlight the need to contemplate implicit and explicit school practices, including feedback and recognition practices, that emphasize students' relative academic standing and competition with other students (Maehr & Midgley, 1991, 1996). Educators need to ask themselves if rewarding the highest-achieving students provides "role models" and thus "motivates" other students to do well. We are unconvinced that it does and believe that during the self-conscious early adolescent period, such practices likely turn off rather than turn on many adolescents to the process of learning (Eccles & Midgley, 1989; Maehr & Midgley, 1991).

Second, once management routines have been established in the classroom, our results suggest the importance of teachers' ability to find ways to include students' voices in the learning process and to provide them with some choice and control over their learning. Supporting autonomy does not mean having no structure, just as structure in the classroom should not exclude provisions for student autonomy. Teachers need to ask how their students can reasonably participate, with teacher support, in the design of tasks or in the choice of topics. Perhaps students should be included in designing the kinds of management routines that govern effective classroom life. Our results suggest that such practices will bear fruit, though teachers' ability to give away some authority in the classroom certainly rests first and foremost on their ability to establish that authority.

Third, teachers need to be open to the interests and prior knowledge of their students so they can craft lessons that touch meaningful life events, experiences, and questions that occupy adolescents in their everyday lives during this exciting period in the life course (Dewey, 1902/1990). We have encountered middle grades teachers who do this by surveying students at the outset of units and who, after gathering such data, use it in the design of their curriculum and instruction for that unit in small but significant ways.

Fourth, many of the Carnegie Council's (1989, 1995) recommendations on making schools smaller through organizational ar-

rangements such as schools-within-schools and the like seem important to cultivating positive relationships and time for authentic interactions between students and teachers. The first author, for example, recalls the importance of having his calculus teacher offer a coffee hour 1 morning a week where students could visit and chat informally. Just knowing such opportunities exist at school may provide an important set of resources to adolescents, even if they never use them.

Fifth, our results suggest that teachers and school leaders need to inquire into the silent and overt practices of discrimination in schools that may disenfranchise members of particular groups of adolescents (Fine, 1991; Sadker & Sadker, 1994; Tatum, 1997). This requires staff development and a commitment to care in the school as a whole. The creation of such a caring school climate requires adults who are courageous and compassionate and who define and defend truth, trust, and fairness; forums in which school leaders enlist the help and commitment of students to act in a caring way toward one another; organizational structures that provide for extended contact among teachers and students (e.g., schools-within-schools, staying with students over several years); and implementation of thematic or interdisciplinary curricula that address themes of community and care (Noddings, 1992). As America reshapes herself demographically in the coming decades, creating caring communities in school will continue to be an important educational priority.

Finally, our results support the idea that many students need more than basic educational services to help them to stay on track to a positive future. Many youth today face substantial challenges to healthy development, and the coordination of health and mental health services at the school for high-risk students and their families is essential to supporting "readiness to learn" in such students and "readiness to teach

them" in their teachers (Adelman & Taylor, 1998; Dryfoos, 1994, 1998).

Conclusion

As more is understood about the complex social environments that affect adolescent development, schools will continue to be seen as an important if not central arena for health promotion, primary prevention, and intervention services for adolescents in addition to the education of students. Understanding how to improve middle schools will continue to necessitate attention to a dual set of purposes: how to create optimal conditions for teaching and learning for all students and their teachers, and how to deliver additional family and child services to those students with particular vulnerabilities and needs.

Fortunately, many of the factors we found to be associated with positive or negative developmental outcomes in our research that might accomplish these dual ends are amenable to change through reflective practice and concerted effort on the part of teachers, school leaders, and other community members. Whereas demographic factors were important in predicting the psychological and behavioral outcomes we examined in this research, they were by no means the main or even the strongest predictors of youth outcomes. Social contexts matter, and schools are a central context affecting adolescent development. By supporting the art and craft of teaching in middle grades schools through reforms, leadership, and organizational support, educational and community leaders also support the art and craft of learning in students. By providing health and mental health services for students and their families at the school site, educators and community leaders also support teachers and the community at large. As stated in the Carnegie Council (1989) report: "Many middle grade schools today fall far short of meeting the critical educational, health, and social needs of millions of young adolescents. Many youth now leave the middle

grades unprepared for what lies ahead of them. A fundamental transformation of the education of young adolescents is urgently required" (p. 36). We want to emphasize that successful adolescent development requires successful adult development and vice versa, and middle school environments must be reshaped to meet the needs of both adolescents and the adults who serve them through the schools. Though there is much work to be done, researchers and practitioners have already generated an impressive body of knowledge that can help shape this fundamental transformation of middle grades schools in the years to come (Carnegie Council, 1989, 1995). Given the right political and personal commitments of society's elders, such a transformation seems like a real possibility in the new millennium. We end as Erikson did in his lecture series entitled "The 1973 Jefferson Lectures in the Humanities" and hope we can live up to his message on the dimensions of a new identity: "There is a new greeting around these days which, used casually, seems to suggest not much more than that we should be careful, or take care of ourselves. I would hope that it could come to mean more and I therefore want to conclude these lectures with it: TAKE CARE" (p. 125).

Appendix

Sample Middle School Perception Items

Support of Competence Dimension

Youth Perceptions of School Ability Goal Structure (five items)

Teachers treat kids who get good grades better than other kids.

Students are encouraged to compete against each other for grades.

Teachers only care about the smart kids.

(1 = not at all true, 3 = somewhat true, 5 = very true)

Youth Perceptions of School Task Goal Structure (five items)

Teachers want students to really understand their work, not just memorize it.

Trying hard counts a lot.

Everyone is challenged to do their very best.

(1 = not at all true, 3 = somewhat true, 5 = very true)

Youth Perceptions of Positive Teacher Regard (one item)

Your teachers think you are a good student.

(1 = not at all true, 3 = somewhat true, 5 = very true)

Support of Autonomy Dimension

Youth Perceptions of Student Empowerment (five items)

Are students allowed to choose their partners for group work?

Do students get to decide where they sit?

Are students' ideas and suggestions used during classroom discussion?

(1 = almost never, 3 = sometimes, 5 = almost always)

Youth Perceptions of Meaningful Curriculum (10 items)

How often in social studies class do you learn about people and places that are important to you?

How often in science class do you discuss problems or issues that are meaningful to you?

How often in English do you read books about people of your cultural or racial group?

(1 = almost never, 3 = sometimes, 5 = almost always)

Quality of Relationships with Teachers Dimension

Youth Perceptions of Teacher Emotional Support (one item)

When you have a personal or social problem in school, how often can you depend on your teachers to help you out?

(1 = almost never, 3 = sometimes, 5 = almost always)

Youth Perceptions of Negative Treatment Due to Race (five items)

At school, how often do you feel that:

Teachers think you are less smart than you really are because of your race?

Teachers/counselors discourage you from taking certain classes because of your race?

You are disciplined more harshly than other kids because of your race?

(1 = never, 3 = a couple of times a month, 5 = every day)

Youth Perceptions of Negative Treatment Due to Gender (five items)

At school, how often do you feel that:

Teachers call on you less often than they call on kids of the opposite sex?

Teachers/counselors discourage you from taking certain classes because of your sex?

You are disciplined more harshly by teachers than kids of the opposite sex?

(1 = never, 3 = a couple of times a month, 5 = every day)

Notes

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1. All scales and properties can be obtained from the second author at the University of Michigan.

2. Seventh-grade GPA was collected at the end of the school year, about 6 months after the motivation, mental health, problem behavior, and negative peer affiliation indicators. These indicators were all collected near the beginning of adolescents' seventh-grade year. The eighth-grade constructs were all assessed near the end of eighth grade.

3. Sixty-six percent of the continuous sample is African American; the other third is white.

4. Youth reports were used to assess ethnic/racial status and gender. Primary caregivers reported on their education level, occupation, and mean 1990 pretax family income. Educational level was coded as follows: 1 = less than a high school diploma, 2 = high school graduate, 3 = less than a college degree, 4 = college degree or higher. Occupational status was coded using Nam and Powers's (1983) category system, with scores ranging from 0 to 99. Lower values on the occupational status scale were associated with lower-skill and lower-prestige occupations. Total 1990 pretax family income was assessed on a forced-choice scale ranging from 1 = less than $5,000 to 16 = more than $75,000, with each scale value representing a $10,000 incremental range.

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