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Perceived School Climate and Difficulties in the Social Adjustment of Middle School Students

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This study examines the relative importance of middle school climate for explaining variance in student behavioral problems and emotional distress. Participants were 499 sixth and seventh grade students (51% girls; 26% Hispanic, 22% African American, and 52% Caucasian or other racial–ethnic group) attending a large urban middle school. After accounting for demographic and psychosocial variables, boys' school climate perceptions explained variance in multi-informant measures of externalizing and internalizing problems. Girls' school climate perceptions significantly explained variance only in self-reported externalizing problems. Although these cross-sectional data do not allow conclusions about the direction of effects, the findings are consistent with research indicating that schools' social environments affect a broad range of student emotional and behavioral outcomes. Implications for interventions to enhance school social climates are discussed.

How does school climate influence middle school students' social adjustment? Recent years have seen increased calls for attention to the learning and social climate of middle grade schools (Carnegie Council on Adolescent Development, 1989, 1995). Young adolescents experience rapid changes in their physical, emotional, and interpersonal development; at the same time, they move from elementary to middle schools. This transition can be stressful for young people, leading to declines in academic performance, self-image, perceived social support, and perceptions of the quality of school life (Blyth, Simmons, & Carlton-Ford, 1983; Crockett, Petersen, Graber, Schulenberg, & Ebata, 1989; Hirsch & Rapkin, 1987; Seidman, Allen, Aber, Mitchell, & Feinman, 1994). These experiences, in turn, have been linked to difficulties in behavioral and emotional adjustment (Eccles et al., 1993; Jessor, 1993; Seidman, 1991). A large body of research has demonstrated that the perceived quality of school climate is linked to academic performance (Good & Weinstein, 1986; Purkey & Smith, 1983). However, less is known about how these qualities may also play a role in young adolescent social adjustment.

In this study, we examine the relative importance of middle school social climate for explaining variation in students' externalizing and internalizing problems. Our analyses are intended to extend current knowledge about how a positive school climate can protect against maladjustment in young adolescents. An integration of social–ecological and developmental theories is used as a framework for organizing hypotheses about the role of school climate in student adjustment.

What Is School Climate?

School climate has been studied from multiple theoretical and methodological perspectives (Anderson,

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1982; Good & Weinstein, 1986). This research varies in its focus on individuals (e.g., students or teachers), groups of individuals, or whole schools. There is evidence that school climate and the climate of classrooms within the school are different, but overlapping, constructs: Schools with positive overall climate may contain classrooms with poor climates, and the converse may also be true (Van der Sijde, 1988). In this section, we provide a brief overview of past research on school climate (as distinguished from classroom climate) and integrate social–ecological and developmental theories about how school climate is linked to student outcomes.

Early school effectiveness studies defined school climate in terms of observable characteristics of schools that contributed to variation in student achievement (Anderson, 1982). These studies found few consistent associations between student achievement and levels of available resources (e.g., the number of books in the library), teacher qualifications, or other physical characteristics of schools, and prematurely concluded that differences among schools were relatively unimportant to student achievement (Anderson, 1982; Coleman et al., 1966; Good & Weinstein, 1986; Purkey & Smith, 1983). Subsequent studies found that variance in student achievement was explained by utilization rather than levels of resources (Rutter, 1983). Attending a poorly maintained school that relies on outdated teaching materials may erode morale and commitment to the school among students and staff, and may affect student outcomes (Rutter, 1983).

School climate research began to change its focus to less tangible characteristics, such as the organizational behavior of teachers and principals, and the degree of shared values among students and staff (Anderson, 1982; Good & Weinstein, 1986; Halpin & Croft, 1963; Purkey & Smith, 1983). Aside from recognizing that such process-oriented characteristics are key elements of school climate, these conceptualizations drew more from intuition than theory (Anderson, 1982).

Stronger associations with student outcomes became evident as school climate research underwent a further shift, emphasizing students' and teachers' perceptions of the social climate of the school (Brookover, Beady, Flood, Schweitzer, & Wisenbaker, 1979; Stringfield, Teddlie, & Suarez, 1985). Unlike earlier conceptualizations, this focus on school social climate is based in social–ecological and developmental theories, which draw attention to the importance of home, community, and school environments to adolescent development (Emmons, Comer, & Haynes, 1996). For example, Haynes, Emmons, and Comer (1993) developed a multidimensional measure tapping student perceptions of aspects of the school's ecology that are most likely to affect salient developmental tasks. School climate is defined as the quality and frequency of interactions among and between adults and students (Emmons, 1993). Accordingly, this measure taps students' perceptions of interpersonal and procedural dimensions of school life, including achievement motivation, appearance of the school building, fairness, order and discipline, parent involvement, sharing of resources, student interpersonal relations, and student teacher relations.

Social–Ecological and Developmental Perspectives on School Climate

The social–ecological perspective emphasizes reciprocal transactions between individuals and their environments (Bronfenbrenner, 1979; Hamilton, 1983). Social–ecological theory posits that *perceptions* (rather than some notion of objective reality) are key to understanding individuals' efforts to adapt to their social environment (Lewin, 1935; Bronfenbrenner, 1979). The school is as much a dynamic, psychological entity as a physical one (Sarason & Klaber, 1985). The activities, roles, and interpersonal relationships that students experience in school influence (and are influenced by) their attitudes toward education, sense of self, and expectations for the future. For example, despite attending classes within the same walls, a class clown may experience the school setting differently than would the student body president.

Developmental theories hold that the initiation into adolescence centrally involves defining self or identity, and forming intimate relationships outside the family, both with adults and peers (Allen, Aber, & Leadbeater, 1990; Blatt & Blass, 1996; Hill & Holmbeck, 1986). It is likely that middle schoolers' perceptions of school climate reflect informal aspects of school life (e.g., peer attitudes toward school, relationships with teachers) and formal ones (e.g., policies for enforcing discipline; Entwisle, 1990).

An understanding of the transactions between persons and environments also requires considering how cultural and socioeconomic variables (e.g., ethnic minority status, family poverty, household composition) that are linked to risk for maladjustment may also contribute to differing student perceptions of school climate. Likewise, psychosocial variables linked to risk for maladjustment may also contribute to individual differences in school climate perceptions; these include exposure to stressful events, academic self-concept, self-worth, and academic performance (Hoge, Smit, & Hanson, 1990; Kuperminc, Leadbeater, Ulaszek, & Hicks, 1994).

Past research is inconclusive about ethnic and gender differences in responding to the school setting. Fenzel and Blyth (1986), for example, noted gender differences in adjustment to a middle school transition. In their predominantly White and middle class sample, frequent peer contact was associated with better adjustment among boys (reflected in self-esteem gains) than among girls. Although girls reported more intimacy and

more frequent peer contact than boys, these friendships did not appear to mediate their school adjustment. The authors suggested that girls' greater perceived exposure to stressful events, greater negative impact from these stresses, and more negative reports of relationships with parents may have contributed to declines in their self-esteem over the transition. Other research found that girls experience increases in depressive symptoms and declines in body image over the transition to middle school (Crockett et al., 1989; Hirsch & Rapkin, 1987). In contrast, Seidman et al.'s (1994) study of a predominantly poor and ethnically diverse sample found that declines in affective and behavioral domains of adjustment, and increases in cognitive and academic domains, were robust across gender and race or ethnicity. These studies underscore the importance of considering the interplay of gender with demographic variables in the relations between maladjustment and student perceptions about the school setting.

Evidence for School Climate Effects on Student Adjustment

School climate research has focused on academic outcomes such as grades and achievement test scores (Good & Weinstein, 1986). However, some evidence indicates that school climate may also affect a broader range of outcomes, including self-esteem (Hoge et al., 1990) and psychopathology (Kasen, Johnson, & Cohen, 1990). Hoge et al. examined the longitudinal impact of school climate on the self-esteem of sixth and seventh grade students from two public middle schools. Two aspects of school climate, commitment to school and positive feedback from teachers, predicted growth in students' global and academic self-esteem, after accounting for IQ, sex, race, single-parent family, and socioeconomic status (SES). Kasen et al. reported that differences in school emotional and behavioral climate (assessed as conflict, social facilitation, academic focus, and student autonomy) were related longitudinally to changes in mothers' reports of psychopathology and alcohol use from one academic year to the next. For 300 students attending 250 elementary, intermediate, junior high, and senior high schools (ages 9–16), higher academic focus predicted decreases in symptomatology, and more conflict in school predicted increases in acting-out behaviors. Contrary to expectations, students who characterized their schools as facilitating discussions of emotional and family problems had increases in depressive symptoms, perhaps because of heightened attention to student feelings, motivations, and fears.

This Study

The narrow range of adjustment indicators that have been studied, as well as the variable and atheoretical operationalizations of school climate, continue to limit understanding of the link between school climate and adolescent adjustment. In this study, we used the Haynes et al. (1993) multidimensional School Climate Survey (SCS) to assess its associations with multiple informant measures of internalizing and externalizing problems.

We examined cross-sectionally the relative importance of middle school students' perceived school climate within one school for explaining variance in their behavioral and emotional problems. Associations of school climate perceptions were examined in hierarchical multiple regression equations that first accounted for effects of demographic variables (ethnicity, social class, and household composition) and variables previously identified as correlates of students' school climate perceptions (self-worth, academic self-concept, exposure to stressful events, and academic performance; Hoge et al., 1990; Kuperminc et al., 1994). We hypothesized that more positive perceptions of school climate would be associated with fewer externalizing and internalizing problems for boys and girls. Analyses were carried out separately for boys and girls, because research has shown differences in their expressions of maladjustment (for a review, see Leadbeater, Blatt, & Quinlan, 1995). As a first step to understanding how exposure to social and economic disadvantage and psychosocial risk may moderate associations between school climate perceptions and problem behaviors, we also explored interactions of school climate perceptions with each of the demographic and risk variables.

Method

Design and Procedure

The cross-sectional data used in this article were collected as part of a longitudinal study of gender-linked vulnerabilities for depression and problem behavior among pre- and early adolescents. The data are from Wave 1 when participants were in Grades 6 and 7 of a large middle school in a metropolitan school district in New York state. The school district serves approximately 83% of the sixth through eighth grade population in a community that is increasingly diverse in terms of socioeconomic status and ethnicity. Its overall racial or ethnic makeup includes 42% non-Hispanic White, 29% African American, 27% Hispanic, and 3% Asian students. Thirty-eight percent of students are eligible to receive free or reduced price lunches.

This large school is organized around the concept of team teaching, which creates "schools within a school" for each grade level, and maximizes opportunities for students to form relationships with teachers and other students. School policies encourage students to take active roles in their own education through collabora-

tive classroom learning, peer tutoring, and peer mediation. The school's structure, sensitivity to existing or developing problems, and openness to change, reflect many of the critical ingredients of effective middle grade schools (Carnegie Council on Adolescent Development, 1989, 1995; Sarason & Klaber, 1985).

Active parental consent and student assent were sought for all sixth and seventh graders at the school. Letters describing the study were written to parents in English and Spanish, and consent forms were returned directly to the researchers. Meetings were held with school district personnel, administrators, and the Parent–Teacher Association. Meetings were also held with teams of teachers to enlist their help in designing and implementing data collection procedures, and to ensure their support throughout the recruitment period. Classroom presentations were made to explain the study to students and answer questions. A press conference was held to announce the study to the community at large, and advertisements were placed on community access public television and in community newsletters.

Data collection occurred on 2 days (1 day each for sixth and seventh graders). Participants completed the questionnaire in two sessions of 1.5 hr. Questionnaires were group administered in classrooms of 20–25 students, and make-up sessions were conducted for students who were absent on scheduled assessment days. A Spanish version was administered in separate bilingual sessions (n = 30) and special education students (n = 30) were allowed extra time to complete their questionnaires.

Participants

Parental consent was obtained for 528 students (64% of the sixth and seventh grades). Of those, 499 students completed the questionnaire (25 students declined to participate and 4 dropped out of the study before completing the full questionnaire). The sample is equally divided by gender and grade level (51% girls; 52% sixth grade). Similar to the school population, 49% of the participants were non-Hispanic White, 26% were Hispanic, 22% were African American, and 3% were of other races or ethnic groups. The majority (79%) lived with two parents (i.e., biological, adoptive, or step-parents); 20% lived with one parent (usually mother); and 1% lived with other parents or guardians. Thirty-two percent received a free or reduced-price lunch.

Measures

Demographics. School records provided data on student race or ethnicity and socioeconomic status. The school's categorization of student ethnicity was based on parent reports on enrolling their children in the school district. School records indicating whether students received a free or reduced-price lunch provided a measure of socioeconomic status. These data were complete for all participants and correlated moderately with the data of a subsample (n = 435) of students who were able to report their mothers' and fathers' education and occupational status (rs ranged from .34–.40), and of a subsample of parents (n = 372) who filled out demographic information concerning their income, education, and occupational status (rs ranged from .41–.72).

To assess household composition, students were asked to indicate who lived with them (biological or adoptive mother and father, step-parents, grandparents, etc.). Two-parent families included families with two biological or adoptive parents, or with a step-parent. Single-parent, mother-headed households comprised nearly all of the families that did not reside with two parents.

Psychosocial risk variables. We examined four psychosocial variables that are linked to risk processes in adolescence and found in previous research to be associated with school climate perceptions (Hoge et al., 1990; Kuperminc et al., 1994): self-worth, academic self-concept, academic performance, and exposure to stressful events.

Two subscales from the Adolescent Self Perception Profile (Harter, 1988) provided assessments of *self-worth* and *academic self-concept.* This instrument has been used widely with adolescents, and its subscales show strong evidence of reliability and validity. Each subscale consists of five items measured on a 4 -point scale from 1–4, which is designed to reduce the effects of a pull for social desirability. Two contrasting stems were presented side by side for each item, for example: "Some teenagers are often disappointed with themselves," but "Other teenagers are pretty pleased with themselves;" and "Some teenagers feel that they are just as smart as others their age" but "Other teenagers aren't so sure and wonder if they are as smart." Adolescents were asked to decide which stem best described them and then to decide whether the statement was *sort of true* or *really true* for them. Internal reliability estimates were .74 for self-worth and .75 for academic self-concept.

Students' grade point average (GPA) in core academic subjects (Reading, Math, Social Studies, and Science) was obtained from final report cards. Grades were measured on a 13-point scale ranging from 0 (F) to 12 (A+). Students' grades in these academic subjects were strongly intercorrelated (rs ranged from .66–.85), forming a highly reliable scale (α = .92).

Exposure to stressful events was measured using an adaptation of the Adolescent Perceived Events Scale (Compas, Davis, Forsythe, & Wagner, 1987). Items represent major and daily events experienced during early adolescence. Positive events were omitted. Items

describing concerns with normative body changes of puberty were added, given that most sixth and seventh graders are experiencing these changes (Leadbeater, Kuperminc, Kamensky, & Blatt, 1996). Adolescents indicated whether each of 108 negative events or daily hassles had occurred within the previous 3 months, and the extent to which they experienced these events negatively or positively on a 7-point scale ranging from 1 (*felt bad about the event*) to 7 (*felt good about the event*). The scale used in this study includes the total number of items endorsed as having occurred and rated 4 or below ($\alpha = .86$).

Perceived school climate was measured using the well-validated SCS developed by Haynes et al. (1993). This 47-item scale assesses student perceptions of achievement motivation, fairness, order and discipline, parent involvement, sharing of resources, student interpersonal relations, and student teacher relations. (A 5-item subscale describing appearance of the school building was omitted.) Example items include: "My school is a safe place," and "Everyone is treated equally well at my school." Items are rated on a 3-point scale ranging from 1 (*disagree*) to 3 (*agree*). The total school climate scale displays excellent internal reliability ($\alpha = .92$).

Externalizing and internalizing problems. Evidence of situational variability in adolescent behavior across social settings (e.g., home and school) points to the importance of considering information from multiple informants about adolescents' behavioral and emotional problems (Achenbach, 1991; Achenbach, McConaughy, & Howell, 1987). Hence, measures of student behavioral and emotional problems were obtained from self- and teacher reports, and from school records.

Students completed the Youth Self Report (YSR; Achenbach, 1991). This measure has been used widely in research and clinical applications with samples of normal and clinically referred youth, and shows good evidence of reliability and validity (Achenbach, 1991). The measure yields two broadband scales: *externalizing behaviors* (e.g., aggression, delinquent behavior) and *internalizing symptoms* (e.g., depression–anxiety, somatic complaints, social withdrawal). Adolescents rated how well each of 112 items described them over the past 6 months on a 3-point scale ranging from 0 (*not true*) to 2 (*very true or often true*). Eleven cases with scores more than three standard deviations above the mean were rescored to reduce their undue influence on the results (Tabachnick & Fidell, 1989).

Teachers reported on students' internalizing symptoms and externalizing problems using the Teacher Report Form of the Child Behavior Checklist (TRF; Achenbach, 1991). The broadband externalizing and internalizing problem scales paralleled the content of the self-report YSR. The authors argued that this 112-item measure provides useful and distinct information about a youth's behavioral adjustment. Rather than merely reflecting youths' self-reported behaviors, the TRF assesses observable behavioral and emotional problems in the school setting. Both scales were negatively skewed, and were transformed to their natural logarithm to better approximate a normal distribution.

Frequency of discipline referrals received throughout the academic year, as indicated by school records, provided an additional measure of externalizing problems. Discipline referrals measure school-based behavioral problems considered serious enough to be acted on (e.g., loitering in the halls, insubordination, or fighting). Multiple referrals suggest difficulties in regulating behavior. A 4-point scale ranging from 0 (*no discipline referrals*) to 3 (*nine or more discipline referrals*) was created to improve the negatively skewed distribution. A score of zero was assigned to the 52% of students with no discipline referrals, a score of 1 was assigned to 22% of the students, a score of 2 was assigned to 14% of the students, and a score of 3 was assigned to 9% of the students.

Analyses

Preliminary analyses, using multivariate analysis of variance (MANOVA), examined gender differences on criterion and independent variables. Correlations among these variables were then examined separately by gender. Major analyses, using hierarchical multiple regression equations, examined the relative importance of student school climate perceptions for explaining variance in each externalizing and internalizing problems after first accounting for demographic and psychosocial variables. Initial data screening revealed no more than 10 missing values (2%) for any criterion or independent variable; thus, missing values were replaced with sample means.

Results

Preliminary analyses examined gender differences on criterion and independent variables (see Table 1). MANOVAs were computed for the five criterion measures of externalizing and internalizing problems (discipline referrals, self- and teacher reports), and school climate perceptions plus the four psychosocial variables (self-worth, academic self-concept, stressful events, and GPA). Gender differences were not significant for any demographic variable.

Multivariate gender differences were significant for externalizing and internalizing problems, $F(5, 493) = 14.19$, $p < .001$. Univariate tests showed that boys had more self-reported (YSR) externalizing problems, teacher-reported (TRF) externalizing problems, and school discipline referrals. Girls reported more YSR

Table 1. *Means and Standard Deviations of Externalizing and Internalizing Problems, Psychosocial Variables, and School Climate Perceptions by Sex*

	Boys[a]		Girls[b]		
	M	*SD*	*M*	*SD*	*F*(1, 498)
Externalizing and Internalizing Problems					
YSR Externalizing	15.05	8.29	12.29	7.85	14.54***
TRF Externalizing	1.11	1.15	0.77	1.03	11.96***
Discipline Referrals	1.05	1.06	0.53	0.84	35.84***
YSR Internalizing	13.22	8.59	15.55	9.25	8.51**
TRF Internalizing	1.03	1.02	1.03	0.87	0.01
Risk Factors and Perceived School Climate					
Self-Worth[c]	3.22	0.65	3.16	0.72	0.88
Academic Self-Concept[c]	3.00	0.68	3.04	0.77	0.38
Stressful Events[d] (No. of Events Endorsed)	20.98	10.40	22.46	11.03	2.38
Grade Point Average[e]	6.40	3.04	7.50	2.83	18.10***
Perceived School Climate[f]	2.12	0.32	2.19	0.31	5.40*

Note. TRF = Teacher Report Form; YSR = Youth Self Report.
[a]$n = 246$. [b]$n = 253$. [c]Range = 1–4. [d]Number of events endorsed. [e]Based on a scale ranging from 0 (*F*) to 12 (*A*+).
[f]Based on a scale ranging from 1 (*negative*) to 3 (*positive*).
*$p < .05$. **$p < .01$. ***$p < .001$.

internalizing problems but did not differ from boys on TRF internalizing problems. Gender differences were also significant for psychosocial variables and school climate perceptions, $F(5, 493) = 6.57$, $p < .001$. Univariate tests showed that girls earned higher grades than did boys and reported more positive school climate perceptions, but did not differ from boys on self-worth, academic self-concept, or stressful events.

Correlation Analysis

We next examined correlations among criterion and independent variables (see Table 2). Correlations with absolute values above .22 were significant after Bonferroni correction. Boys' school climate perceptions were related negatively to YSR externalizing problems ($r = -.47$), and YSR internalizing problems ($r = -.28$). Girls' school climate perceptions were related negatively to YSR externalizing problems ($r = -.33$). For boys and girls, higher school climate perceptions were related to fewer stressful events ($rs = -.28$ and $-.32$, respectively). Girls' more positive school climate perceptions also were related to higher self-worth ($r = .22$). As expected, psychosocial variables tended to be correlated with internalizing and externalizing problems, both for boys (average absolute value of $r = .22$, *rs* ranged from .01–.51) and for girls (average absolute value of $r = .26$, *rs* ranged from .00–.44). African American status was associated with elevated teacher-reported externalizing problems, discipline referrals, and poorer grades in girls and boys; and in addition, to higher self reported externalizing problems and less positive school climate perceptions in girls (but not boys). Girls and boys of lower SES earned poorer grades than others, as did Hispanic boys (but not girls).

Multiple Regression Analysis

A series of five hierarchical multiple regression equations was computed separately for boys and girls to examine the extent to which school climate perceptions explain variance in externalizing and internalizing problems after accounting for demographic and risk variables. Dependent variables were the multi-informant measures of externalizing and internalizing problems. Demographic variables (dummy-coded race or ethnicity variables marking status as African American or Hispanic, low SES, and two-parent family status) were entered in the first step, followed by self-worth, academic self-concept, stressful events, and grade point average in the second step. Next, the primary variable of interest, school climate perception, was entered in the third step of each equation. Finally, interactions of school climate perceptions with demographic and risk variables were examined in the fourth step to explore whether exposure to risk moderates associations of school climate perceptions with maladjustment. To reduce the likelihood of reporting chance findings, a block of the eight two-way interactions of school climate perceptions with each of the demographic and risk variables was first examined, and specific interactions that reached significance were interpreted only if the entire block was significant.

Externalizing problems. We examined independent associations of school climate perceptions with the three multi-informant measures of externalizing problems: YSR and TRF externalizing problems, and discipline referrals. In these equations, school climate was more consistently associated with adjustment for

boys than for girls when demographic and psychosocial variables were controlled. The results of these analyses are presented in Tables 3 through 5.

For boys, school climate perceptions contributed 16% of explained variance in YSR externalizing problems, and had the only significant regression weight (β = –.43). For girls, school climate perceptions contributed only 2% of explained variance in YSR externalizing problems (β = –.15) after accounting for demographic and risk variables. In addition, African American girls (β = .25) and girls reporting more stressful life events (β = .24) were more likely to report externalizing problem behaviors.

Boys' positive school climate perceptions interacted with African American status to explain 5% of the variance in TRF externalizing problems after accounting for demographic and psychosocial variables (β = –.26). African American boys with negative school climate perceptions were reported by their teachers as having the most externalizing problems compared to boys in the other ethnic groups. This interaction is illustrated in Figure 1.

School climate perceptions did not independently explain variance in girls' TRF externalizing problems. Notably, boys and girls with higher GPA were likely to be seen by their teacher as having fewer externalizing problems (βs = –.32 and –.29, respectively). Also, African American girls (β = .24) had more TRF externalizing problems than other girls.

Positive school climate perceptions were associated with fewer discipline referrals for boys. After accounting for demographic and psychosocial variables, school

Table 2. *Correlations of School Climate Perceptions, Externalizing Problems, Internalizing Problems, Demographic and Psychosocial Variables for Boys[a] and Girls[b]*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. School Climate Perceptions	—	–33	–18	–19	–16	02	22	14	–32	15	–24	16	–01	09
2. YSR Externalizing	–47	—	36	48	52	14	–30	–30	41	–32	38	–09	15	–21
3. TRF Externalizing	–07	21	—	56	13	45	–05	–20	22	–40	42	–13	13	–24
4. Discipline Referrals	–14	27	57	—	18	21	–00	–11	21	–44	45	–10	21	–18
5. YSR Internalizing	–28	59	08	09	—	17	–39	–43	43	–25	20	19	22	–18
6. TRF Internalizing	–15	09	37	22	06	—	–11	–19	14	–23	08	–01	14	–14
7. Self-Worth	14	–17	–23	–17	–35	–24	—	56	–37	22	–05	–09	–16	11
8. Academic Self-Concept	18	–25	–20	–19	–30	–16	34	—	–32	47	–14	–20	–30	21
9. Stressful Events	–28	22	07	13	25	–01	–18	–13	—	–18	16	–07	09	–22
10. Grade Point Average	03	–19	–41	–52	–14	–23	21	43	–09	—	–40	–16	–45	29
11. African American	01	11	27	33	00	24	–07	–15	14	–36	—	–34	20	–26
12. Hispanic	13	–02	02	09	00	–08	05	–09	02	–29	–29	—	45	–01
13. Low SES	05	01	17	24	–01	06	–08	–25	05	–45	17	43	—	–32
14. Lives With Two Parents	–00	–09	–06	–14	–09	–04	01	16	–04	28	–26	–18	–29	—

Note. Correlations for girls above the diagonal and for boys below the diagonal. All correlations are multiplied by 100 and those above 22 are significant at $p < .05$ after Bonferroni adjustment. YSR = youth self report; TRF = teacher report form; SES = socioeconomic status.
[a] $n = 246$. [b] $n = 253$.

Table 3. *Hierarchical Regression of YSR Externalizing Problems on Demographics, Psychosocial Variables, and Perceived School Climate*

	Boys			Girls		
	β	ΔR^2	R^2	β	ΔR^2	R^2
African American	.07			.25****		
Hispanic	.05			.00		
Low SES	–.10			–.01		
Lives With Two Parents	–.04			–.03		
Step 1 Statistics		.02	.02		.16****	.16****
Self-Worth	–.04			–.11*		
Academic Self-Concept	–.10			–.05		
Stressful Events	.06			.24****		
Grade Point Average	–.12			–.10		
Step 2 Statistics		.10****	.12****		.15****	.31****
School Climate	–.43****			–.15**		
Step 3 Statistics		.16****	.28****		.02**	.33****

Note. βs are standardized regression weights for final equation. For boys, $F(9, 236) = 10.25$, $p < .001$; for girls, $F(9, 243) = 13.18$, $p < .001$. YSR = youth self report; SES = socioeconomic status.
*$p < .10$. **$p < .05$. ***$p < .01$. ****$p < .001$.

Table 4. *Hierarchical Regression of TRF Externalizing Problems on Demographics, Psychosocial Variables, and Perceived School Climate*

	Boys			Girls		
	β	ΔR^2	R^2	β	ΔR^2	R^2
African American	.14*			.24****		
Hispanic	.01			−.05		
Low SES	−.00			−.06		
Lives With Two Parents	.08			−.09		
Step 1 Statistics		.09****	.09****		.19****	.19****
Self-Worth	−.11*			.10		
Academic Self-Concept	−.02			−.06		
Stressful Events	−.01			.12*		
Grade Point Average	−.32****			−.29****		
Step 2 Statistics		.12****	.22****		.08****	.27****
School Climate	−.13**			−.04		
Step 3 Statistics		.00	.22****		.00	.27****
School Climate × African American	−.26****		—			
Step 4 Statistics		.05****	.27****		—	—

Note. βs are standardized regression weights for final equation. For boys, $F(10, 235) = 8.58$, $p < .001$; for girls, $F(9, 243) = 10.22$, $p < .001$. TRF = teacher report form; SES = socioeconomic status.
*$p < .10$. **$p < .05$. ***$p < .01$. ****$p < .001$.

Table 5. *Hierarchical Regression of School Discipline Referrals on Demographics, Psychosocial Variables, and Perceived School Climate*

	Boys			Girls		
	β	ΔR^2	R^2	β	ΔR^2	R^2
African American	.18***			.27****		
Hispanic	.05			−.04		
Low SES	.00			.05		
Lives With Two Parents	.05			.02		
Step 1 Statistics		.15****	.15****		.22****	.22****
Self-Worth	−.07			.11		
Academic Self-Concept	.09			.08		
Stressful Events	.03			.14**		
Grade Point Average	−.48****			−.34****		
Step 2 Statistics		.15****	.30****		.09****	.31****
School Climate	−.15**			−.06		
Step 3 Statistics		.02**	.32****		.00	.31****
School Climate × Two-Parent Family	.12**			—		
Step 4 Statistics		.01**	.33****		—	—

Note. βs are standardized regression weights for final equation. For boys, $F(10, 235) = 11.67$, $p < .001$; for girls, $F(9, 243) = 12.30$, $p < .001$. SES = socioeconomic status.
*$p < .10$. **$p < .05$. ***$p < .01$. ****$p < .001$.

climate perceptions interacted with household composition to explain 3% of the variance in discipline referrals (β = .12 for the interaction). As shown in Figure 2, school climate perceptions were unrelated to discipline referrals for boys in two-parent families, but were negatively related for boys residing with a single parent. Also in this equation, African American boys (β = .18) and boys with lower GPAs (β = −.48) were more likely than others to be referred for discipline problems.

School climate perceptions did not independently explain variance in girls' discipline referrals. African American girls (β = .27), girls reporting more stressful life events (β = .14), and girls with lower GPAs (β = −.34) were more likely than others to be referred for discipline problems.

Internalizing problems. Tables 6 and 7 summarize the results of the equations for internalizing problems. School climate perceptions were associated independently with YSR and TRF internalizing problems for boys, but not for girls. As shown in Table 6, boys' school climate perceptions independently contributed 2% of explained variance in YSR internalizing problems (β = −.17). In this equation, boys with lower

self-worth (β = –.25), lower academic self-concepts (β = –.16), and those reporting more stressful life events (β = .14), were more likely than others to report internalizing problems. African American and Hispanic girls (βs = .23 and .26, respectively) reported more internalizing problems. Girls with lower self-worth (β = –.15), lower academic self-concepts (β = –.20), and those reporting more stressful life events (β = .31), were more likely than others to report internalizing problems.

TRF internalizing problems were also independently associated with boys', but not girls', school climate perceptions (see Table 7). Boys' school climate perceptions independently contributed 2% of explained variance in TRF internalizing problems (β = –.15). African American boys were more likely than others to have TRF internalizing problems (β = .20). Boys with lower self-worth (β = –.20), fewer stressful events (β = –.13), and lower GPAs (β = –.16) were seen by their teachers as having more internalizing problems. For girls, more TRF internalizing problems were associated only with poorer grades (β = –.20).

Discussion

Results of this study offer a first step toward understanding how the social climate of schools is linked to student adjustment in an ethnically and socioeconomically diverse middle school. Although these cross-sectional data do not permit conclusions about the direction of effects, the results are consistent with findings of longitudinal effects of school climate perceptions on middle school students' social adjustment (Hoge et al., 1990; Kasen et al., 1990), and gender differences in early adolescents' responsiveness to their socializing environments (Leadbeater et al., 1995; 1996). Defined

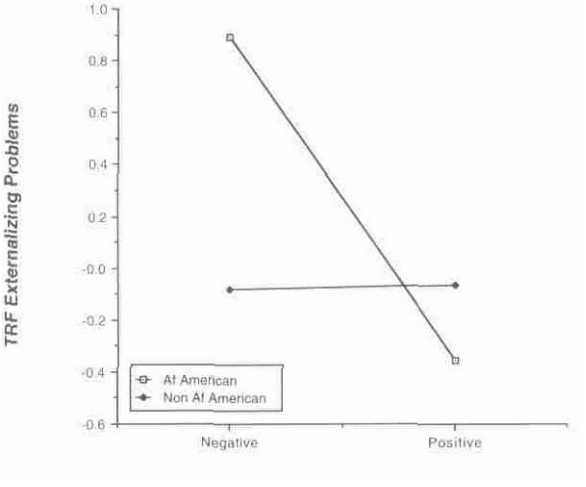

Figure 1. Interaction of racial–ethnic group with school climate perceptions in the regression of teacher reported externalizing problems.

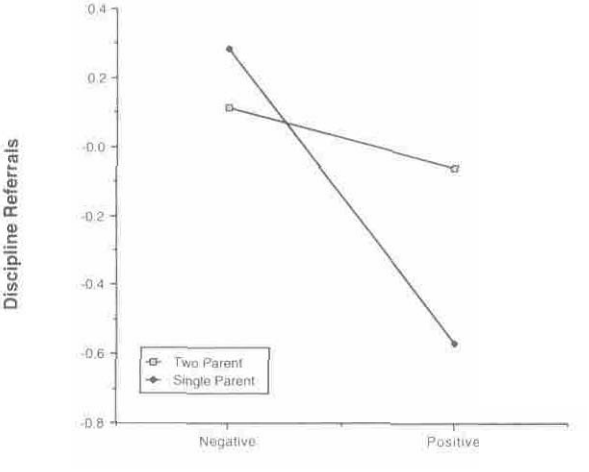

Figure 2. Interaction of household composition with school climate perceptions in the regression of school discipline referrals.

Table 6. *Hierarchical Regression of YSR Internalizing Problems on Demographics, Psychosocial Variables, and Perceived School Climate*

	Boys			Girls		
	β	ΔR^2	R^2	β	ΔR^2	R^2
African American	–.07			.23****		
Hispanic	.01			.26****		
Low SES	–.11			–.03		
Lives With Two Parents	–.09			–.02		
Step 1 Statistics		.01	.01		.13****	.13****
Self-Worth	–.25****			–.15**		
Academic Self-Concept	–.16**			–.20***		
Stressful Events	.14**			.31****		
Grade Point Average	–.05			.06		
Step 2 Statistics		.20****	.21****		.23****	.36****
School Climate	–.17***			.01		
Step 3 Statistics		.02***	.23****		.00	.36****

Note. βs are standardized regression weights for final equation. For boys, $F(9, 236) = 8.02$, $p < .001$; for girls, $F(9, 243) = 14.95$, $p < .001$. YSR = youth self report; SES = socioeconomic status.
*$p < .10$. **$p < .05$. ***p .01. ****p .001

Table 7. *Hierarchical Regression of TRF Internalizing Problems on Demographics, Psychosocial Variables, and Perceived School Climate*

	Boys			Girls		
	β	ΔR^2	R^2	β	ΔR^2	R^2
African American	.20**			−.08		
Hispanic	−.02			−.13		
Low SES	−.02			.07		
Lives With Two Parents	.05			−.06		
Step 1 Statistics		.06***	.06***		.03*	.03*
Self-Worth	−.20***			−.01		
Academic Self-Concept	−.00			−.07		
Stressful Events	−.13**			.09		
Grade Point Average	−.16**			−.20**		
Step 2 Statistics		.08****	.14****		.05**	.08***
School Climate	−.15**			.10		
Step 3 Statistics		.02**	.16****		.01	.09***

Note. βs are standardized regression weights for final equation. For boys, $F(9, 236) = 4.80$, $p < .001$; for girls, $F(9, 243) = 2.65$, $p < .01$. TRF = teacher report form; SES = socioeconomic status.
*$p < .10$. **$p < .05$. ***$p < .01$. ****$p < .001$.

as the quality and frequency of students' perceived interactions with adults and other students, school climate perceptions accounted for independent variance (2%–16%) in all multi-informant assessments of boys' externalizing and internalizing problems after accounting for demographic and risk variables. For girls, school climate perceptions were independently associated only with self-reported externalizing problems, and explained little variance (2%).

A supportive school climate may facilitate boys' adjustment, yet the associations are likely to be bidirectional. Boys are more likely than girls to report and to be seen by teachers as having externalizing problems and to be disciplined at school for these problems. This heightened surveillance of behavior may lead boys to greater awareness of the potentially positive or negative impact of the school environment on their lives. Boys with more negative school climate perceptions may be those who are more subject to discipline.

Implications of these bi-directional influences deserve special note with regard to the adjustment of ethnic minorities, who appear to be at greater risk for externalizing and internalizing problems and school failure. African American boys were more likely than other boys to be perceived by their teachers as disruptive and to be disciplined, but they did not perceive themselves as having more externalizing problems. African American girls also showed elevated levels of discipline referrals and teacher-reported externalizing problems relative to other girls, but they also reported greater externalizing problems than other girls. African-American girls had less positive perceptions of school climate than other girls, but this was not true of African American boys. African American girls and boys appear to be at particular risk for school-related externalizing problems (see also Fabrega, Ulrich, & Loeber, 1996), even in a school very much committed to providing quality education to an ethnically diverse population. African American girls and boys and Hispanic girls reported elevated levels of internalizing problems, but ethnicity was unrelated to teacher-reported internalizing problems. These findings may reflect cultural variation in the construct validity of problems assessed by the YSR and TRF (Drotar, Stein, & Perrin, 1995), or cultural differences in teachers' interpretations of student behavior (Fabrega et al., 1996; Zimmerman, Khoury, Vega, Gil, & Warheit, 1995). Interventions may be needed to increase mutual understanding of culturally linked expectations that teachers and students have about appropriate behavior in the school setting (Zimmerman et al., 1995).

Exploratory analyses of interaction effects provides evidence that school climate perceptions may play a protective role in culturally linked risk for boys' externalizing problems. African American boys had fewer teacher-reported externalizing problems when their school climate perceptions were positive. Similarly, boys who did not live in two-parent families had fewer discipline referrals when their perceptions of school climate were positive. Because racial or ethnic group status is confounded with poverty and single parenthood in this sample, these findings reflect both cultural and social influences. Thus, positive perceptions of school climate may serve a protective function for boys from relatively less advantaged demographic backgrounds.

The role of school climate perceptions in girls' social adjustment remains unclear. Demographic and psychosocial variables accounted for more variance in girls', as compared to boys', externalizing and internalizing problems on most measures (5%–19%), suggesting that these variables mediate associations of perceived school climate with girls' adjustment. Girls with lower self-worth and more stressful events may attribute their more negative views to the school climate. On the other hand, girls

are more likely than boys to express distress through internalizing problems (Leadbeater et al., 1995); accordingly, they may have fewer negative interactions with teachers, and encounter fewer of the conflicts with school rules that could foster negative attitudes.

In contrast to previous research, student grades were uncorrelated with school climate perceptions for boys and girls. Also, grades did not explain variance in self-reported internalizing or externalizing problems but had consistently among the strongest independent associations with teacher-reported externalizing and internalizing problems and school discipline referrals. Students may make distinctions between the academic and social functions of school life that their teachers do not. The social functions tapped by their descriptions of the school climate may be more relevant to their own sense of social adjustment. In contrast, teachers and other school personnel may rely on observations of students' academic functioning when they make judgments about the seriousness of students' emotional or behavioral problems. This possibility warrants further research.

The tendency among school personnel to rely on indicators of student academic performance as markers of social adjustment may be of particular concern with regard to girls who experience emotional distress. Specifically, independent variables explained only 8% of the variance in the final regression equation for girls' teacher-reported internalizing problems (proportions of explained variance were higher for other problem behavior measures for both boys and girls, ranging from 16%–35%). In this equation, academic performance had the only significant regression weight. In contrast, grades had no significant independent relation to girls' self-reported internalizing problems. Instead, girls with high levels of self-reported internalizing problems were likely to be ethnic minorities and to report low self-worth, low academic self-concept, and high exposure to stressful events. Because many emotionally distressed girls may be able to maintain adequate grades, it is possible that their internalizing problems go unnoticed by school personnel. If confirmed in future analyses, these findings may indicate a need for interventions that increase the sensitivity of school personnel to a broad range of student behavioral problems and symptoms of emotional distress.

Future Directions

Whether the findings of this study would replicate in schools with different characteristics (e.g., smaller, less economically and ethnically diverse, etc.) remains a question for future research. Longitudinal research is needed to establish associations between school climate and changes over time in student adjustment, and to examine the direction of effects. Also, further research is needed to examine whether specific dimensions of school climate affect differing expressions of student difficulties in adjustment and whether these effects occur across gender, academic ability, and demographic background.

Conceptual and methodological issues also remain for future research, involving the levels of analysis at which associations between school climate and student outcomes can be expected. This study focuses on individual differences in students' perceptions of school climate within a single school; thus, although examining an environmental variable, analyses are at the individual level. Multiple strategies for research must be employed to address environmental (or institutional) levels of analysis, including comparative studies of two or more schools and in-depth (both quantitative and qualitative) studies of the social climate within individual schools. Although statistical methods (e.g., hierarchical linear models) are available to simultaneously assess effects at individual and institutional levels of analysis, there remain conceptual and methodological problems. For example, within a single school, there may be multiple social climates experienced by students differing in academic status (e.g., assigned to low as compared to high ability groups), or social status (e.g., friendship networks that remain segregated by gender, socioeconomic status, or ethnic group membership). Given that individual differences in school climate perceptions were associated with student adjustment, is it appropriate to aggregate student perceptions to construct an average school climate score for assessment of institutional effects?

This study uses students' self reports to evaluate their subjective perceptions of school climate. We expected that students' internalizing and externalizing problems would be more likely to be influenced by subjective experiences of the school's social climate, than by other, more objective measures (Emmons et al., 1996). Nevertheless, it is difficult to imagine how to intervene directly to improve subjective perceptions of school climate; thus, further research is needed to learn about objective changes to schools that may lead to subjective improvements in climate. Such investigation of associations between school climate and student adjustment can occur in the context of school-based prevention programs (Carnegie Council on Adolescent Development, 1989, 1995; Durlak, 1995). Programs have sought to improve student outcomes through changes in the social organization of school settings (e.g., Felner & Adan, 1988; Felner, Ginter, & Primavera, 1982; Weinstein et al., 1991). The School Development Program (Cauce, Comer, & Schwartz, 1987; Comer, Haynes, Joyner, & Ben-Avie, 1996; Emmons, 1993; Haynes, Comer, & Hamilton-Lee, 1988) is perhaps the most comprehensive and widely disseminated example. The program involves parents, teachers, and students in the management and coordination of

all school activities, and emphasizes collaboration, consensus, and shared responsibility to develop a comprehensive school plan, provide necessary training to staff, and evaluate and modify the school's performance. Such programs have described broad objectives, such as creating a positive and supportive school environment that optimizes children's intellectual and social development; however, mirroring the empirical research, evaluations of these programs have focused primarily on educational outcomes (although some attention has been paid to program effects on maintaining or building students' self-esteem).

Using a framework based in developmental and social–ecological theories, this study found relations between students' perceptions of school climate and multi-informant indexes of difficulties in adjustment. The findings indicate that school climate may have a direct impact on boys' behavioral and emotional adjustment, and that this impact may be particularly powerful for boys from relatively disadvantaged backgrounds. For girls, associations between school climate perceptions and adjustment may be mediated by levels of exposure to psychosocial risk. These findings add to a body of knowledge pointing to the promise of intervening in school settings to prevent maladjustment in young adolescents, but more work is needed before appropriate developmental, gender, and culture sensitive interventions can take place.

References

Achenbach, T. M. (1991). *Integrative guide for the 1991 CBCL/4–18, YSR, and TRF Profiles.* Burlington: University of Vermont Department of Psychiatry.

Achenbach, T. M., McConaughy, S. H., & Howell, C. T. (1987). Child/adolescent behavioral and emotional problems: Implications of cross-informant correlations for situational specificity. *Psychological Bulletin, 101,* 213–232.

Allen, J. P., Aber, J. L., & Leadbeater, B. J. (1990). Adolescent problem behaviors: The influence of attachment and autonomy. *Psychiatric Clinics of North America, 13,* 455–467.

Anderson, C. S. (1982). The search for school climate: A review of the research. *Review of Educational Research, 52,* 368–420.

Blatt, S. J., & Blass, R. B. (1995). Relatedness and self-definition: A dialectical model of personality development. In G. G. Noam & K. W. Fischer (Eds.), *Development and vulnerability in relationships* (pp. 309–338). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Blyth, D. A., Simmons, R. G., & Carlton-Ford, S. (1983). The adjustment of early adolescents to school transitions. *Journal of Early Adolescence, 3,* 105–120.

Bronfenbrenner, U. (1979). *The ecology of human development.* Cambridge, MA: Harvard University Press.

Brookover, W. B., Beady, C., Flood, P., Schweitzer, J., & Wisenbaker, J. (1979). *School social systems and student achievement: Schools can make a difference.* New York: Praeger.

Carnegie Council on Adolescent Development. (1989). *Turning points: Preparing American youth for the 21st century: The report of the Task Force on Education of Young Adolescents.* Washington, DC: Author.

Carnegie Council on Adolescent Development. (1995). *Great transitions: Preparing adolescents for a new century.* Washington, DC: Author.

Cauce, A. M., Comer, J. P., & Schwartz, D. (1987). Long-term effects of a systems oriented school prevention program. *American Journal of Orthopsychiatry, 57,* 127–131.

Coleman, J., Campbell, E., Hobson, C., McPartland, J., Mood, A., Weinfield, F., & York, R. (1966). *Equality of educational opportunity.* Washington, DC: U.S. Government Printing Office.

Comer, J. P., Haynes, N. M., Joyner, E., & Ben-Avie, M. (1996). *Rallying the whole village.* New York: Teachers College Press.

Compas, B. E., Davis, G. E., Forsythe, C. J., & Wagner, B. M. (1987). Assessment of major and daily stressful events during adolescence: The Adolescent Perceived Events Scale. *Journal of Consulting and Clinical Psychology, 55,* 534–541.

Crockett, L. J., Petersen, A. C., Graber, J. A., Schulenberg, J. E., & Ebata, A. (1989). School transitions and adjustment during early adolescence. *Journal of Early Adolescence, 9,* 181–210.

Drotar, D., Stein, R. E. K., & Perrin, E. C. (1995). Methodological issues in using the Child Behavior Checklist and its related instruments in clinical child psychology research. *Journal of Clinical Child Psychology, 24,* 184–192.

Durlak, J. (1995). *School-based prevention programs for children and adolescents.* Thousand Oaks, CA: Sage.

Eccles, J. S., Midgley, C., Wigfield, A., Buchanan, C. M., Reuman, D., Flanagan, C., & Mac Iver, D. (1993). Development during adolescence: The impact of stage-environment fit on young adolescents' experiences in schools and in families. *American Psychologist, 48,* 90–101.

Emmons, C. L. (1993). School development in an inner city: An analysis of factors selected from Comer's program using latent variable structural equations modeling. *Dissertation Abstracts International, 54*(4), 1287A.

Emmons, C. L., Comer, J. P., & Haynes, N. M. (1996). Translating theory into practice: Comer's theory of school reform. In J. P. Comer, N. M. Haynes, E. Joyner, & M. Ben-Avie (Eds.), *Rallying the whole village* (pp. 27–41). New York: Teachers College Press.

Entwisle, D. (1990). Schools and the adolescent. In S. Feldman & G. R. Adams (Eds.), *At the threshold: The developing adolescent* (pp. 197–224). Cambridge, MA: Harvard University Press.

Fabrega, H., Ulrich, R., & Loeber, R. (1996). Adolescent psychopathology as a function of informant and risk status. *Journal of Nervous and Mental Disease, 184,* 27–34.

Felner, R. D., & Adan, A. M. (1988). The School Transition Environment Project: An ecological intervention and evaluation. In R. H. Price, E. L. Cowen, R. P. Lorion, & J. Ramos-McKay (Eds.), *Fourteen ounces of prevention: A casebook for practitioners* (pp. 111–122). Washington, DC: American Psychological Association

Felner, R. D., Ginter, M., & Primavera, J. (1982). Primary prevention during school transitions: Social support and environmental structure. *American Journal of Community Psychology, 10,* 277–290.

Fenzel, L. M., & Blyth, D. A. (1986). Individual adjustment to school transitions: An exploration of the role of supportive peer relations. *Journal of Early Adolescence, 6,* 315–329.

Good, T. L., & Weinstein, R. S. (1986). Schools make a difference. *American Psychologist, 41,* 1090–1097.

Halpin, A. W. & Croft, D. B. (1963). *The organizational climate of schools.* Chicago: University of Chicago Press.

Hamilton, S. F. (1983). The social side of schooling: Ecological studies of classrooms and schools. *The Elementary School Journal, 83,* 313–334.

Harter, S. (1988). *Manual for the Self-Perception Profile for Adolescents.* Denver, CO: Author.

Haynes, N. M., Comer, J. P., & Hamilton-Lee, M. (1988). The School Development Program: A model for school improvement. *Journal of Negro Education, 57,* 11–21.

Haynes, N. M., Emmons, C., & Comer, J. P. (1993). *Elementary and middle school climate survey.* New Haven, CT: Yale University Child Study Center.

Hill, J. P., & Holmbeck, G. N. (1986). *Attachment and autonomy during adolescence.* Greenwich, CT: JAI.

Hirsch, B. J., & Rapkin, B. D. (1987). The transition to junior high school: A longitudinal study of self-esteem, psychological symptomatology, school life and social support. *Child Development, 58,* 1235–1243.

Hoge, D. R., Smit, E. K., & Hanson, S. L. (1990). School experiences predicting changes in self-esteem of sixth and seventh grade students. *Journal of Educational Psychology, 82,* 117–127.

Jessor, R. (1993). Successful adolescent development among youth in high risk settings. *American Psychologist, 48,* 117–126.

Kasen, S., Johnson, J., & Cohen, P. (1990). The impact of school emotional climate on student psychopathology. *Journal of Abnormal Child Psychology, 18,* 165–177.

Kuperminc, G. P., Leadbeater, B. J., Ulaszek, W., & Hicks, I. (1994, June). *Social-ecological risk in preadolescent development as predictors of perceived school climate.* Paper presented at the 1995 meeting of the Society for Community Research and Action (APA Division 27), Chicago.

Leadbeater, B. J., Blatt, S. J., & Quinlan, D. M. (1995). Gender-linked vulnerabilities to depressive symptoms, stress and problem behaviors in adolescents. *Journal of Research on Adolescence, 5,* 1–29.

Leadbeater, B. J., Kuperminc, G. P., Kamensky, M. S., & Blatt, S. J. (1996). *Domain-specific sensitivities to stressful life events as predictors of academic, emotional, and behavioral problems in young adolescents.* Unpublished manuscript, Yale University.

Lewin, K. (1935). *A dynamic theory of personality: Selected papers.* New York: McGraw-Hill.

Purkey, S. C., & Smith, M. S. (1983). Effective schools: A review. *The Elementary School Journal, 83,* 427–452.

Rutter, M. (1983). School effects on pupil progress: Research findings and policy implications. *Child Development, 54,* 1–29.

Sarason, S. B., & Klaber, M. (1985). The school as a social situation. *Annual Review of Psychology, 36,* 115–140.

Seidman, E. (1991). Growing up the hard way: Pathways of urban adolescents. *American Journal of Community Psychology, 19,* 173–201.

Seidman, E., Allen, L., Aber, J. L., Mitchell, C., & Feinman, J. (1994). The impact of school transitions in early adolescence on the self-system and perceived social context of poor urban youth. *Child Development, 65,* 507–522.

Stringfield, S., Teddlie, C., & Suarez, S. (1985). Classroom interaction in effective and ineffective schools: Preliminary results from Phase III of the Louisiana School Effectiveness Study. *Journal of Classroom Interaction, 20,* 31–37.

Tabachnick, B. G., & Fidell, L. S. (1989). *Using multivariate statistics: Second edition.* New York: Harper & Row.

Van der Sijde, P. C. (1988). Relationships of classroom climate with student learning outcomes and school climate. *Journal of Classroom Interaction, 23,* 40–44.

Weinstein, R. S., Soule, C. R., Collins, F., Cone, J., Mehlhorn, M., & Simontacchi, K. (1991). Expectations and high school change: Teacher-researcher collaboration to prevent school failure. *American Journal of Community Psychology, 19,* 333–364.

Zimmerman, R. S., Khoury, E. L., Vega, W. A., Gil, A. G., & Warheit, G. J. (1995). Teacher and parent perceptions of behavior problems among a sample of African American, Hispanic and Non-Hispanic White students. *American Journal of Community Psychology, 23,* 181–198.

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