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ABSTRACT

Recent research has indicated that a learning setting's "psychological environment" can make a difference in student achievement and motivation. This has been found to be true in the case of smaller learning settings, such as the classroom. Recently, research on school culture has suggested that schools do indeed differ in the kind of learning environment they provide. The present paper advances this research one step further. An extensive study of school achievement (in conjunction with a statewide assessment program) involving over 16,000 students in 820 Illinois schools was conducted. Primary variables considered in this report are the school's psychological environment or "culture," student ethnic background, and motivation. Results showed that school culture was more important for minority than white students, so far as facilitating motivation was concerned, and that one school environment may not fit all equally well. Whereas a stress on accomplishment is likely to be important to Whites, Asian students seem especially susceptible to isolation and could benefit from a collegial school environment. If these results are valid, educators are faced with the problem of creating different school cultures within the same general school context. More research is needed on school culture influences. (21 references) (Author/MLH)
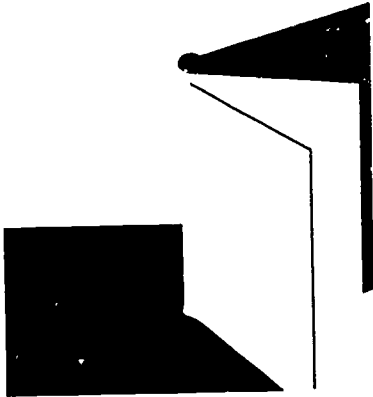
"School Culture," Student Ethnicity, and Motivation

Leslie J. Fyans, Jr. and Martin L. Maehr

Illinois State Board of Education and The University of Michigan

The National Center for School Leadership

Project Report

University of Illinois at Urbana-Champaign

University High Laboratory School

In collaboration with

The University of Michigan

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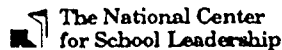
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Abstract

Recent research on motivation and achievement has
indicated that the "psychological environment" of the
learning setting can make a difference in the motivation
and achievement of students. This has been found to be
true in the case of smaller learning settings, such as
the classroom. Recently, however, research on the
school as a whole, on its "culture," has suggested that
schools do indeed differ in the kind of learning
environment they provide. The present study takes this
point at least one step further. An extensive study of
school achievement conducted in association with a
state-wide assessment program, involving over 16,000
students in 820, schools was conducted. Primary
variables considered in this report are the
psychological environment of the school or "school
culture," student ethnic background, and motivation. It
was found that (a) "school culture" was more important
for minority than white students, so far as facilitating
motivation was concerned, and (b) that one school
environment may not fit all equally well.

7

"School Culture," Student Ethnicity, and Motivation

The present research builds on two somewhat dissimilar, but perhaps complementary, research traditions. In the last decade or so, a plethora of studies has alluded to and occasionally demonstrated the differential character of schools. In the first place, some schools have been found to be more effective than others. With that, effective schools research is common, at times, taking on the characteristic of a "movement." In explaining why certain schools are more effective than others, a number of possibilities have been put forward. Among them is the possibility that some schools simply manage better to elicit the best efforts of staff and students. That is, motivation is viewed as a critical variable (cf. e.g., Lee & Bryk, 1989) although the nature and source of motivation within an organization are seldom fully explicated.

From a different perspective, research on motivation and achievement has been increasingly directed toward the question of how "psychological

environments" affect motivation (Maehr & Ames, 1989).
Such research has focused in a special way on the
psychological environments present within learning
settings. Thus, Carole Ames and her colleagues (Ames,
1987, Ames & Archer, 1987, 1988; Ames, Archer,
Fisher, Hall, & Maehr 1989), have conceptualized the
classroom in terms of stresses on certain learning
goals. As children perceive differential degrees of
stress on, for example, mastery goals, their motivation
and learning practices have been found to change in
significant ways. Presumably, these perceptions are not
only affected by what happens in classrooms but have
been shown to be changeable as classroom management
practices change. Conceivably, what has been shown to
happen in the classroom could happen on a larger scale
in the school as a whole. That is, perhaps the school
may also be appropriately conceptualized as a
psychological environment, and perceptions that students
hold in reference to this organizational entity might
likewise relate to motivation and achievement patterns.
Indeed, in an earlier study (Maehr & Fyans, 1989, 1990),

this possibility was raised and put to a preliminary
test.

In this earlier study, strong evidence for the
existence of a causal chain leading from "school
culture" through motivation to achievement was revealed
in the case of 6th-, 8th-, and 10th-grade students.
Thus, the Maehr-Fyans study established an argument for
the importance of school culture as an antecedent to
motivation and academic achievement. The present study
is a follow-up, a companion piece, to this earlier study
by Fyans and Maehr. It explores how sociocultural
background may interact with the perceived culture of
the school to influence student motivation and
achievement. From time to time, it has been suggested
that different learning environments will be
differentially effective with students of different
sociocultural background. In contrast, it is also
proposed that there is one best school culture for all
(see Baden & Maehr, 1986, for a review of the relevant
literature). Yet, there is precious little evidence to
support either position. The present study is designed

to contribute to an alleviation of this state of affairs.

The purpose of this study was to determine whether, and, if so, how school culture stresses may impact children of diverse sociocultural backgrounds at different age/grade levels. Since Maehr and Fyans (1990) found that motivation mediates the influence of school culture on achievement, the present study concentrates on student motivation as the dependent variable.

Methods

In order to address the issues posed, the authors exploited a large data set established by the Illinois State Board of Education in conjunction with its statewide assessment program. In the 1980s the Illinois State Board of Education decided to study a wide range of factors possibly associated with student achievement. A specific concern of this study was the relationship of school characteristics to student motivation and achievement. To this end, the authors designed a data-gathering plan to survey personal and contextual factors

that might relate to student achievement. This
inventory included a focus on school culture, student
motivation, and achievement. Items commonly used in the
study of student motivation and achievement were
employed. Items on school culture were adapted from
recent research on organizational culture. Thus, a
large data set was available to consider the
relationships of school and student characteristics to
motivation and achievement. Following is a more
detailed description of the variables specifically
considered in this study.

Subjects/Sample

The sample consisted of 16,310 4th-, 6th-, 8th-,
and 10th-grade students, representative of students
enrolled in Illinois public schools. These students
were drawn from 820 public schools. All data were
gathered in conjunction with the state-wide school and
student achievement assessment program.

Variables Assessed

Generally, the relation of school culture and
motivation was considered at four different grade levels
for students of different backgrounds.

School culture. Survey items were adapted from
previous research on organizational culture (Maehr,
1987; Maehr & Braskamp, 1986). These items are designed
to assess the student perceptions of school goal
stresses along five dimensions. These dimensions and
item examples are presented in Table 1 and described and
discussed in detail elsewhere (Krug, 1989; Maehr &
Fyans, 1989, 1990). The student perceptions of school
goal emphases were treated as individual difference
variables, an index of the unique psychological
environment existing for each student (Maehr & Fyans,
1989, 1990). This choice reflects a theoretical
orientation (cf. Maehr & Fyans, 1989). However,
psychometric research on these items, conducted by Krug
(1989), revealed generalizability coefficients
indicating that treating culture as an aggregate or
group variable is not only possible but yields similar
results.

Table 1

Dimensions of School "Psychological Environment"

Assessed

Accomplishment

Emphasis on excellence and pursuit of academic

challenges.

Item Example: This school makes me like to

learn.

Power

Emphasis on interpersonal competition, socially

comparative achievement.

Item Example: At this school, it is very

important to get good grades.

Recognition

Emphasis on social recognition for achievement.

Item Example: This school gives recognition

for good performance.

Affiliation

Perceived sense of community, good interpersonal relations among teachers and students.

Item Example: Teachers at this school treat students with respect.

Overall Saliency of the Psychological Environment

The perception that the school stresses certain purposes and goals.

Item Example: Every student in this school knows what it stands for.

Motivation. Motivation was measured through a 12-item scale (see Table 2). This scale was comprised of items adapted from questionnaires regularly employed to assess attributions of success and failure, sense of competence, test anxiety, perceived value of education, expectations of success, and continuing motivation. These items have not only been employed in a large number of studies appearing through the literature, but they had also been subjected to extensive item analysis and tests of appropriate scaling. A more detailed

description of the characteristics and psychometric
properties of the scale, including validity data, is to
be found elsewhere (Fyans, 1983; Fyans & Stenzel, 1981;
Maehr, 1989; Maehr & Fyans, 1989, 1990). Briefly
summarized, the item intercorrelation was substantial.
Further, an unweighted least squares factor analysis
with the reference vectors derived from a Promax oblique
rotation, suggested that motivation as assessed here
could appropriately be treated as a single dimension.
All the motivation items loaded on one factor, and this
one factor accounted for 92% of the variation in student
responses. Thus, in conducting further analyses, the
responses of each student to the motivation items were
aggregated to obtain a total motivation score for each
student.

Table 2

Description of Motivation Scale

Item Number		Factor Loading
1	Expectation of Success	.50
	(What percentage of multiple	
	choice test questions do you	

expect to answer correctly on
this whole test?)

2   Attainment Value   .31
(How important is it for you to
do well on this test?)

3   Attribution of Success (ability,   .30
effort, luck, and task)
(When I perform well on an
assignment in school, it is
because···)

4   Minimal Acceptable Standard   .38
(What is the lowest percentage
of test questions you could get
correct on this whole test and
still be satisfied with your
performance?)

5   Perceived Effort   .45
(Compared to other students, how
hard do you work at school?)

Item Number		Factor Loading
6	Continuing Motivation	.39
	(If you have 5 minutes of free time during this test, either to sit or work on additional test questions for fun, how many test questions would you attempt?)	
7	Homework Effort	.29
	(On the average, how many hours do you spend each evening on homework?)	
	Future Academic Plans:	
	(I plan to study each subject this number of years...)	
8	English	.53
9	Mathematics	.66
10	Natural Science	.68
11	Foreign Language	.55
12	Social Science	.50

Note: Items 1, 2, 4, and 6 relate specifically to the task at hand. The remaining items relate to school achievement generally.

Student ethnicity. Indications of student ethnicity
were obtained through self-reporting procedures in which
students were asked to identify themselves within one of
four categories: White, Black, Hispanic, or Asian. It
should be noted that indicators of students' SES
(parental education) were also obtained and were
controlled statistically in the analyses to view the
special effects of ethnicity.

Results

In order to determine the differential influence of
school culture in the case of different ethnic groups,
separate multiple regressions were conducted for each of
the ethnic groups. The results of these analyses are
summarized in Table 3 and portrayed graphically in
Figures 1, 2, and 3. Note that accepted procedures for
analyzing relationships along multiple dimensions within
a hierarchical framework were employed (Beaton, 1969;
Cohen & Cohen, 1983; Fyans, 1983; Kerlinger, 1973;
Pedhazur, 1982).

In presenting the results, we will focus especially
on two distinguishable issues. First, consideration

will be given to the amount of variance in motivation
explained by school culture for each of the ethnic
groups. Second, we will consider how results specific
to each of the dimensions of school culture scale affect
students in the four ethnic groups differently. In each
case, results will be considered at the four different
grade levels for the purpose of considering
developmental trends suggested by the data.

Table 3

School Culture and Motivation

Summary of Multiple Regression Results: Dimensions
of School Culture Across Four Grade Levels

	4th grade	6th grade	8th grade	10th grade
Accomplishment	.16*	.18	.24	.31
Power	.07	.09	.10	.08
Recognition	.05	.09	.08	.14
Affiliation	-.002	.03	.01	.06
Saliency	.09	.08	.08	.004
	$R^2=7\%$	$R^2=11\%$	$R^2=14\%$	$R^2=21\%$

*Standardized beta weights

The Overall Role of School Culture

Considering, first of all, the question of whether school culture may be differentially important for students of different ethnic background, several summary observations of the data can be made. Figure 1 presents a portrayal of the differential influence of school culture in the four ethnic groups at successive age levels. Specifically graphed there is the motivation variance explained (R^2) for each ethnic group at each grade level. The graph highlights several features of the results. First, school culture appears to have its greatest effects in explaining motivation at Grade 10 for all ethnic groups. Second, considering the 10th grade only, school culture is more important for Asians, Hispanics. and Blacks (in that order) than it is for Whites. It may be noted that at earlier grade levels, school culture is associated with motivation, but not as strongly. Focusing especially on the portrayal in Figure 1, the abrupt change in the importance of the school culture at the 10th grade is especially striking. There, one can also easily see the differing results for ethnic groups. While the influence is most striking at

the 10th-grade level, there is evidence that school culture is related to student motivation at earlier levels as well. However, the differential degree of influence on the four ethnic groups, particularly as this varies at successive grade levels, is not readily explained.
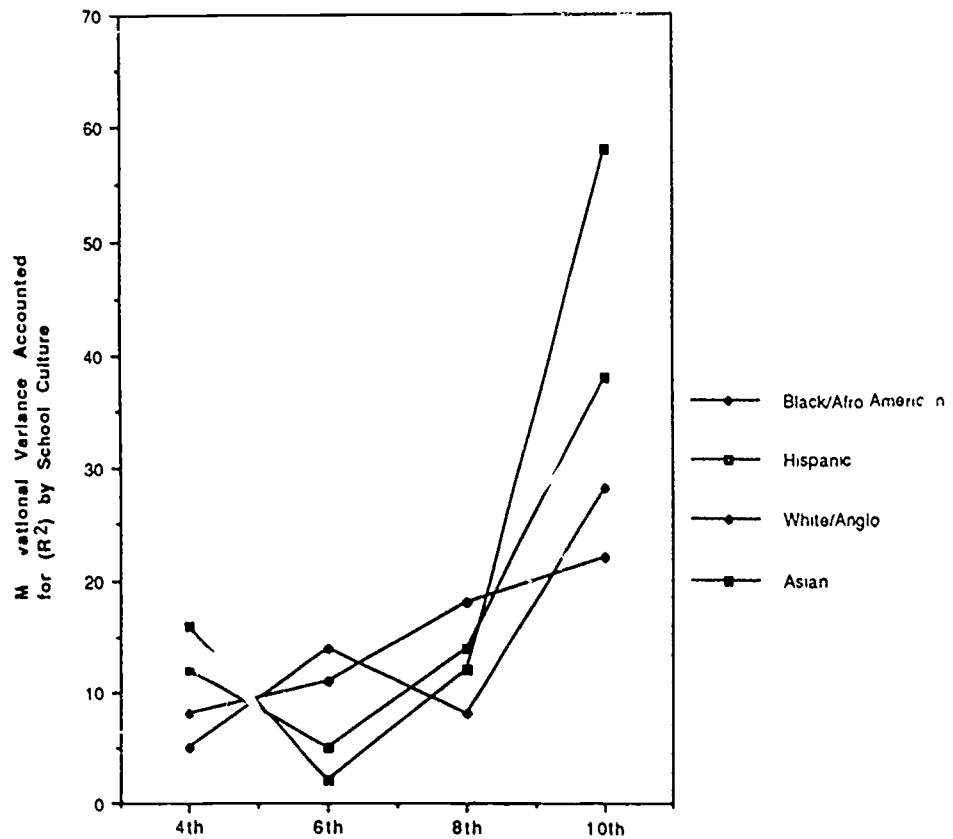

Figure 1. Motivational Variance Accounted for (R^2) by "School Culture" at Successive Grade Levels
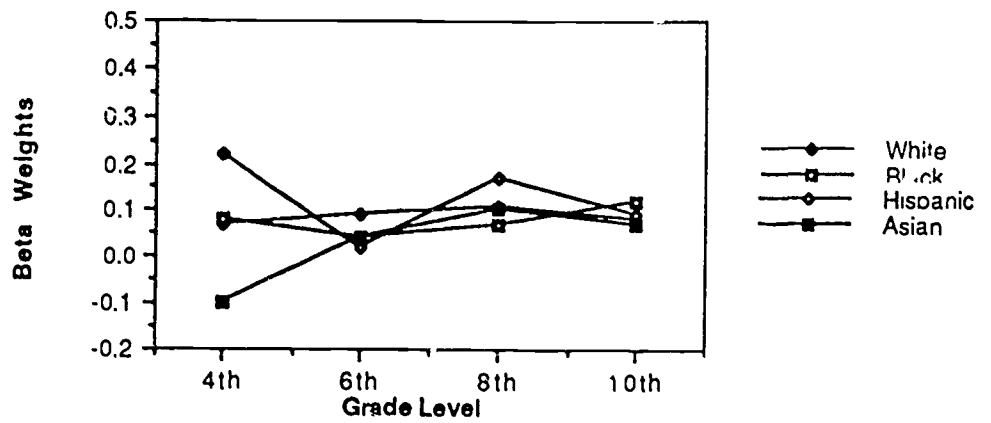
Dimensions of School Culture

Regarding the question of the importance of the five dimensions for the four different ethnic groups, the findings in this regard are likewise summarized in Table 2, but it is the portrayal in Figure 2 that may be most instructive. Viewing Figure 2, one may note that a stress on Accomplishment is apparently increasingly important for Whites--but not for the other ethnic groups. Recognition is generally of increasing importance to Asian students, a trend not clearly evident in the other ethnic groups. Focusing on the results in the case of Saliency (Figure 3), it may be noted that, except for Hispanics, the importance of Saliency tends to decrease with grade level.
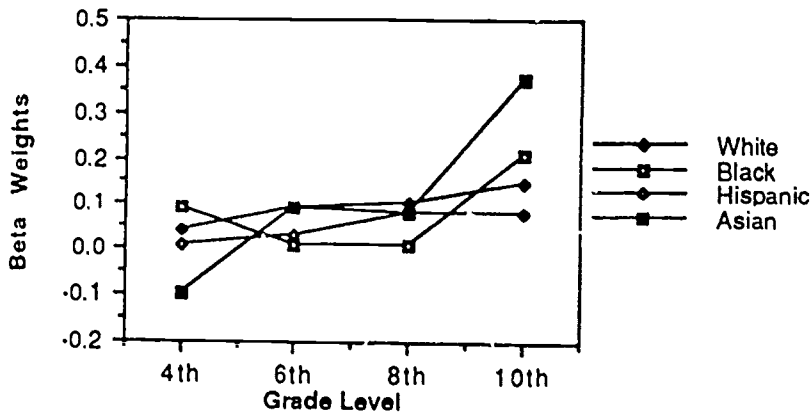
Accomplishment

School Culture
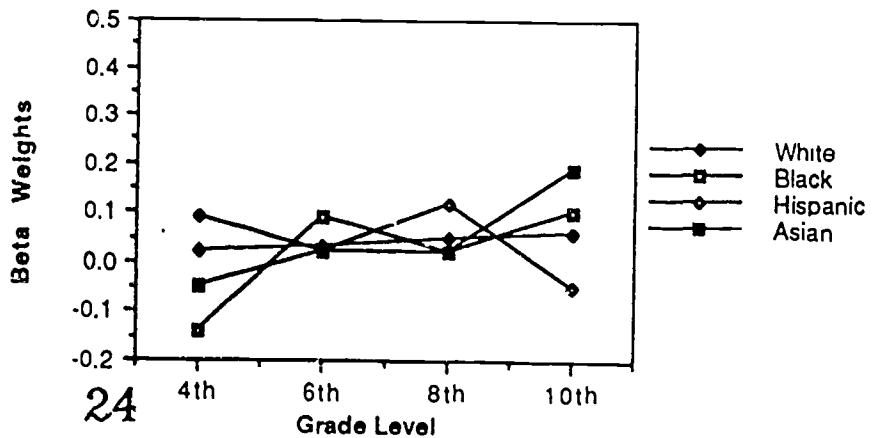
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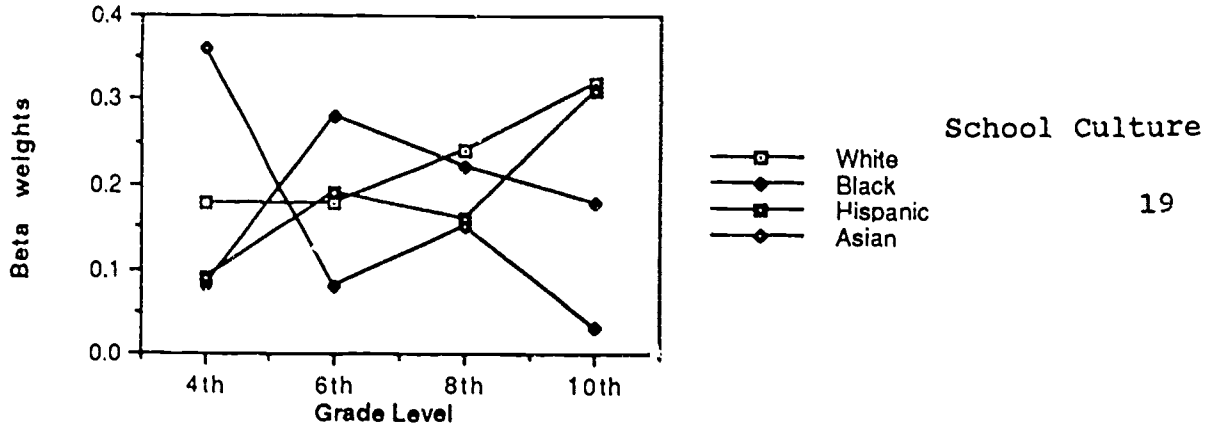
Power

Recognition

Affiliation

24

Figure 2. Contribution (Standardized Beta Weights) of Accomplishment, Power, Recognition and Affiliation "School Culture" Dimensions at Successive
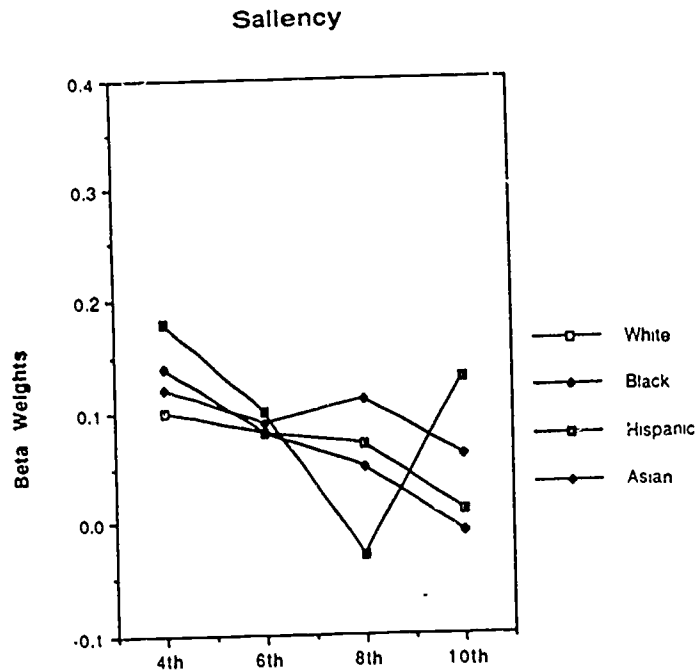
Saliency

Figure 3. Contribution (Standardized Beta Weights) of Saliency
"School Culture" Dimension at Successive Grade Levels.

Discussion

The present study grows out of a conceptual
framework that suggests that schools vary in character
and that this variation makes a difference in the
motivation and achievement of students. Previous
research has suggested not only how the psychological
environment of schools may vary but also provided
evidence on how this variation may influence motivation
and achievement. The present results add another
dimension to this program of research, and a provocative

one at that. Examined here is the interaction of
student ethnicity with school culture in explaining
motivational variance. Results indicate variation in
the school culture-motivation relationship with
ethnicity.

First, the school's quality as a psychological
environment may be differentially important for children
of different backgrounds. In a previous paper (Maehr &
Fyans, 1989), it was shown that school culture was
related in an apparently causal fashion to motivation,
which in turn was related to school achievement. The
results of the present study add an important piece or
two of information to this overall finding: school
culture may be differentially important for the
motivation of children of different ethnic backgrounds.
In particular, it seems that the motivation of non-white
ethnic groups is likely to be most (positively and
negatively affected) by school culture.

That school culture is likely to be important for
children of non-white ethnic background is especially
intriguing. Certainly, one might surmise that the
school plays a certain function in creating a common

core culture, for good or for ill, bringing minorities
into the so-called mainstream. But that is not really
the point of these results. The overall quality of the
school culture is seen here to relate to indices of
student motivation for achievement. The bottom line is
that schools have a potential for good or ill, which is
especially crucial for minority children, whose
motivation for achievement is likely to be especially
susceptible to the influence of the school. That
potential, according to these results, seems to reside
at least in part in the kind of psychological
environment that is associated with the school.

The results add yet another possible insight to the
growing picture of school culture influences in the case
of different ethnic groups. Different school culture
profiles appear to be more influential for different
culture groups. Thus, variation in stresses in school
environment is likely to have different effects,
dependent on ethnic group membership. The clarity of
the differential influence is perhaps most evident at
the 10th-grade level, but variations at other levels are
evident as well. In particular, one might single out

one aspect of these findings as bordering on the
provocative: the finding that a stress on
Accomplishment is most likely, overall, to be important
for Whites. Recall that the Accomplishment dimension
presumably + . an emphasis on learning as an
interesting and challenging endeavor, worthy in its own
right. It is also interesting to note the relative
importance of Recognition and Affiliation for Asian
students. Perhaps Asian students are especially
susceptible to isolation within school settings and
therefore benefit particularly from a school environment
which is collegial (Affiliation dimension) and makes a
point of recognizing individuals. Perhaps greater
stress on group cohesiveness in the cultural background
and family life (Caplan, Whitmore, & Choy, 1989) may
combine to make school culture emphases on Recognition
and Affiliation especially salient so far as enhancing
motivation in the school context. Whatever, the
importance of Recognition and Affiliation for Asian
students is clear--and of considerable interest.

These results may prompt many questions. First of
all, it is difficult to fully understand why school

culture interacted with student ethnicity the way it did. The findings, while intuitively plausible to some degree, are somewhat novel in nature. Indeed, before we push too far for interpretation, these results ought to be replicated. But if the finding persists that there is no one best culture for all children irrespective of ethnic background, we are presented with a most difficult situation so far as the practical affairs of schooling are concerned. How does one create different cultures within the same general school context? Be that as it may, these are the results and they demand further consideration.

In conclusion, it is well to reiterate a repeated theme of this paper. The results are interesting. For that reason and because of the size of the sample, among other reasons, they deserve attention in subsequent discussion and research. These findings cannot, of course, be considered the final word on school culture, ethnicity, and student motivation. They are a provocative first word, a first word which should prompt questions and further research. The kind of methods employed should yield to more focused analyses as well

as to varied research designs and methods. Certainly, additional and expanded consideration of the nature of such key constructs as school culture (see Midgley & Maehr, manuscript in preparation) and motivation (Maehr & Braskamp, 1986) is in order. And why should different groups respond in this way to different school cultures--if that turns out to be a replicable finding? If the finding persists that there is no one best culture for children of different ethnic backgrounds, what does that mean for theory as well as for practice? In short, we leave this study with a new set of questions for further exploration and analysis.

References

Ames, C. (1989). Preliminary report, home-school
cooperation in motivation enhancement. University of
Illinois, Urbana-Champaign.

Ames, C.A. (1987). Enhancing student motivation. In
M. Maehr & D. Kleiber (Eds.), Recent advances in
motivation and achievement, Vol 5: Enhancing
motivation. Greenwich, CT: JAI Press.

Ames, C., & Archer, J. (1987). Mothers' beliefs about
the role of ability and effort in school learning.
Journal of Educational Psychology, 4, 409-414.

Ames, C.A., & Archer, J. (1988). Achievement goals in
the classroom: Student learning strategies and
motivation processes. Journal of Educational
Psychology, 80, 260-270.

Ames, C., Archer, J., Fisher, A., Hall, H., & Maehr, M.
(1989, March). Achievement goals and the structure
of learning. Paper presented at American Educational
Research Association meeting in San Francisco.

Baden, B., & Maehr, M.L. (1986). Confronting culture
with culture: A perspective for designing schools
for children of diverse sociocultural backgrounds.

In R. Feldman (Ed.), Social psychology applied to

education. New York: Cambridge University Press.

Beaton, A.P. (1969). Some mathematical and empirical

properties of criterion scaled variables. In G.W.

Mayeske (Ed.), A study of our nation's schools.

Washington, DC: U.S. Office of Education.

Caplan, N., Whitmore, J.K., & Choy, M.H. (1989). The

boat people and achievement in America: A study of

family life, hard work, and cultural values. Ann

Arbor, MI: University of Michigan Press.

Cohen, J., & Cohen, P. (1983). Applied multiple

regression/correlation: Analysis for the behavioral

sciences. Hillsdale, NJ: L. Erlbaum.

Fyans, L.J., Jr. (1983). Multi-level analysis and

cross-level inference of validity. In L.J.

Fyans, Jr. (Ed.) Generalizability theory:

Inferences and practical applications. San

Francisco: Jossey-Bass.

Fyans, L.J Jr., & Stenzel, N. (1981). Student

achievement in Illinois: 1970-1981. Springfield:

Illinois State Board of Education.

Kerlinger, F.N. (1973). Foundations of behavioral
research. New York: Holt, Rinehart & Winston.

Krug, S.E. (1989). Leadership and learning: A
measurement-based approach for analyzing school
effectiveness and developing effective school
leaders. In M.L. Maehr & C. Ames (Eds.), Advances in
motivation and achievement (Vol. 6). Greenwich, CT:
JAI Press.

Lee, V.E., & Bryk, A.S. (1989). A multilevel model of
the social distribution of high school achievement.
Sociology of Education, 62, 172-192.

Maehr, M.L. (1987). Managing organizational culture to
enhance motivation. In M.L. Maehr & D.A. Kleiber
(Eds.), Advances in motivation and achievement, Vol.
5: Enhancing motivation. Greenwich, CT: JAI Press.

Maehr, M.L. (1989). Thoughts about motivation. In C.
Ames & R. Ames (Eds.), Research on motivation in
education, Vol. 3: Goals and cognitions. New York:
Academic Press.

Maehr, M.L., & Braskamp, L.A. (1986). The motivation
factor: A theory of personal investment. Lexington,
MA: D.C. Heath.

Maehr, M.L., & Fyans, L.J., Jr. (1989). School
culture, motivation, and achievement. In M.L. Maehr,
& C. Ames (Eds.) Advances in motivation and
achievement (Vol. 6). Greenwich, CT: JAI Press

Maehr, M.L., & Fyans, L.J., Jr. (1990). School
"culture," motivation and achievement. To be
published as a technical report by the National
Center for School Leadership.

Midgely, C., & Maehr, M.L. (Manuscript in preparation
School culture: Fact or fad. Unpublished
manuscript.

Pedhazur, E.J. (1982). Multiple regressions in
behavioral research. New York: CBS College
Publishing.