



## **Motivation and Learning Environment Differences Between Resilient and Nonresilient Latino Middle School Students**

by

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### **OVERVIEW**

Many programs and school-based interventions have been found to be effective for some types of students at risk of failure. However, these programs and interventions have not necessarily been effective for Latino students because the programs need to specifically address many of the concerns of these students.

Even within the general Latino population, it cannot be assumed that all Latino students have similar backgrounds, levels of motivation, and/or perceptions toward school. Some Latino students, for example, are very successful in school, whereas other Latino students experience failure and despair in school. It may be necessary to first look at Latino students who do well in school and see how they differ from less successful Latino students.

One area of research having important implications for the educational improvement of Latino students is that of examining *resilient* students, students who succeed in school despite adverse conditions.

Drawing on two distinct and emerging theoretical frameworks—educationally resilient students and classroom learning environments—this study compares resilient and nonresilient Latino students' motivation and classroom learning environments

in mathematics. Other important background characteristics such as academic aspirations, attendance records, and students' personal time allocation are examined between the two student groups because they have been found to be important variables related to student achievement. Grade- and sex-related differences are examined because they have been previously found to affect at-risk students' attitudes of their classroom environment.

### **METHODS**

The study was conducted in the five middle schools of a multicultural school district located in a major metropolitan city in the south central region of the United States. The school district was selected because it had relatively equal representations of Latino, African-American, Asian-American, and White students in each school and classroom, and because Latino students represented an unsuccessful minority group, scoring significantly lower than all other ethnic groups on statewide standardized mathematics achievement tests.

Three surveys—measuring student motivation and classroom and instructional learning environments—were adapted to elicit individual students' responses to their roles in mathematics class, rather than their perceptions of the class as a whole. Several back-

ground items selected from the National Educational Longitudinal Study of 1988 (NELS:88) were also included, asking questions about students' background characteristics, academic aspirations, attendance, and time allocation. At the end of the school year, a combined survey was administered to a randomly selected, stratified sample of 60 resilient and 60 nonresilient Latino students. Students' mathematics achievement was measured using the Four-Step Problem Solving Test and students' reported mathematics grades.

Chi-square tests were used to compare the frequencies of responses between resilient and nonresilient students on the study background items. MANOVA analyses were used to determine (a) whether there are motivational and perceptual differences by students' sex, grade, and classification (resilient or nonresilient) and (b) whether there are any interaction effects by sex, student classification, and/or grade level. Follow-up analyses and multiple comparison tests were performed to determine where the significant differences were. Finally, descriptive discriminant analysis was made to determine the extent to which the groups differ with respect to their classroom learning environment, instructional learning environment, motivation, and background characteristics.

## RESULTS

### Non-English-Language Speaking

Results for the two groups revealed no significant differences on whether they spoke a non-English language before they started school. About 76% of the resilient students indicated that they spoke a language other than English before they started school, whereas about 67% of the nonresilient students said that they spoke a language other than English before starting school.

### Academic Aspirations

Although the study showed academic aspirations for nonresilient Latino students to be very similar to the overall national results for Hispanic students on the NELS:88, the results for resilient students were much higher.

Resilient students were significantly more likely to indicate that they were sure that they would graduate from high school, and significantly more likely to respond that they would graduate college and attend graduate school.

When informally asked why resilient students do significantly better in mathematics and have higher academic aspirations, two of the middle school mathematics teachers cited several personality traits, such as persistence and positive work habits, that they believe distinguish resilient students.

### Attendance

There were significant differences between the two groups on attendance records, with resilient students less likely to report cutting or skipping classes or being late for school.

### Time Allocation

Resilient students reported that they spent more time doing mathematics homework and more time on additional reading.

There were no significant differences between the two groups on the amount of time they spent watching television or listening to music.

### Significant Variables

Ten of the 12 independent variables included in the discriminant analysis were shown to have the greatest practical significance for distinguishing between resilient and nonresilient students. These variables are:

- academic aspirations,
- involvement,
- academic self-concept,
- expectations for high school graduation,
- not held back in school,
- satisfaction,
- late for school,
- time spent reading additional material,
- achievement motivation, and
- time spent on homework.

Only the variables of days missed in school and classes cut or skipped do not appear to be highly related to student resiliency.

### Motivation and Psychosocial Processes

Results from the present study revealed that motivation and psychosocial processes are significantly different between resilient and nonresilient Latino middle school students. Despite coming from the same school environment and similar home environments, some Latino students have done exceptionally well in their mathematics classes, whereas others have done quite poorly.

As expected, the study also found that resilient students are much more motivated than their nonresilient classmates and that they are much more satisfied and involved with their mathematics classes. These findings are similar to other studies that have found student satisfaction differentiates resilient and nonresilient students. The findings revealed no sex-related differences.

The grade-related differences revealed that sixth-grade students were more involved than seventh-grade students and that eighth-grade students had higher achievement motivation than seventh-grade students.

### Multivariate Analyses

Results indicated that there are significant main effects of group and grade on students' motivation and perceptions of their learning environment, but no significant main effects for sex, or interaction effects of (a) group by sex, (b) group by grade, (c) sex by grade, or (d) group by sex and grade.

Results for students' motivation and perceptions by group and grade revealed that resilient students had significantly higher perceptions of involvement, satisfaction, academic self-concept, and achievement motivation. There were no significant group differences on the affiliation (the extent to which students know, help, and are friendly toward each other) and parent involvement scales. As to grade-related differences, sixth-grade students reported significantly higher involvement than seventh-grade students, and eighth-grade students reported significantly higher achievement motivation than seventh-grade students.

## CONCLUSIONS

Further studies need to examine how aspects of the classroom and instructional learning environments can be changed so that they can serve as protective mechanisms for students in at-risk school environments. In addition, development and implementation of affective or motivational training programs may be required to see if they improve Latino students' affective and cognitive outcomes.

These and similar issues should be examined so that we can continue to understand why some Latino students are resilient and how we can help other students develop resiliency and become more successful.

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