

**Newly Immigrant Students:  
Predictors of Change in Academic Performance Over Time**

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### **Abstract**

Educators across the country are facing a massive wave of immigrant children who often arrive with severely limited language proficiency and who may live in chaotic and stressful socioeconomic contexts. Immigration is a profoundly disruptive life transition requiring extensive adaptation, but little is known about the adjustment of these students in the years immediately following their migration. In this study, changes in the academic performance of newly immigrant Argentinean, Colombian, Cuban, and Haitian students were assessed from their first to their third post-migration year, and predictors of performance change were examined in structural equation analyses. Reading performance improved over time, but math performance deteriorated relative to reading performance. English language proficiency and parental support were key indicators of academic success. As expected theoretically, post-migration stresses accompanying this major life transition appeared to compromise the availability of parental support and to increase the likelihood of support seeking from peers. These support system dynamics were linked to more negative school attitudes, increased absences from school, and lower performance. The results indicate that harsher post-migration conditions contribute to less positive school outcomes.

## **Newly Immigrant Students: Predictors of Change in Academic Performance Over Time**

Immigration is a profoundly disruptive life transition requiring extensive adaptation. Although research on immigrant students has emerged sporadically, almost nothing is known about the adjustment of these students in the years immediately following their migration. Historically, immigrant students have tended to outperform nonimmigrant students of the same cultural background (Fuligni, 1998; Hernandez & Charney, 1998; Nord & Griffin, 1999; Suárez-Orozco & Suárez-Orozco, 1995, 2001), but there is divergence across socio-cultural boundaries (Portes & Rumbaut, 2001; Rumbaut, 1997). Haitian and Latin American immigrants have not shown the same achievement advantage as other groups and Latin Americans, in particular, are more likely to drop out of school (Fuligni, 1997; Kao & Tienda, 1995). Thus, it is especially important to understand the factors that promote or inhibit the achievement of students from these groups.

The purpose of this study was to assess changes in the academic performance of newly immigrant Argentinean, Colombian, Cuban, and Haitian students from their first to their third post-migration year. The study is unique in assessing predictors of performance for these groups of immigrants in their early post-migration period. As students' initial introduction to school in the U.S. is likely to set the stage for their long-term progress, we view the research as crucial to developing strategies to ensure their success.

The research was grounded in two theoretical perspectives: (a) the convoy model of social relations developed by Kahn and Antonucci (1980) and (b) the segmented assimilation framework proposed by Portes and Rumbaut (2001). From the standpoint of the convoy model, life transitions are viewed as points of heightened vulnerability that place demands on the individual's support system. In the present study, we focused on the dynamics of support from

three sources thought to be important for the academic adaptation of immigrant children: parents, peers, and school personnel.

Portes and Rumbaut (2001) note that adaptation is uneven across immigrant groups, with variations contingent on their socioeconomic context following migration. From this perspective, economic hardship, language difficulty, and other sources of post-migration stress may compromise school performance through several channels. First, these conditions might be expected to limit the ability of parents to provide support for academic accomplishment. Second, children in these circumstances may seek support from peers who devalue school performance. Third, these conditions may interfere with school engagement directly, leading to less positive attitudes toward school and poorer school attendance.

In this research, we tested a hypothetical model in which changes in academic performance were predicted by English language proficiency, post-migration stress, economic hardship, support from parents, friends and school personnel, school attitudes, and school absences. Initial grade level, gender, country of origin, and prior school performance were included in the model as control factors. We anticipated that changes over time in language proficiency, stress, economic hardship, and support would be linked directly or indirectly to changes in school attitudes, in school absences, and in academic performance. Better academic outcomes were predicted for increased proficiency and for parental and school support, whereas less positive outcomes were expected for increased stress, economic difficulty, and peer support.

## **Method**

### *Sample*

The sample included 388 newly-immigrant public school students for whom achievement data could be obtained. These students were in grades 3 (N = 95), 6 (N = 127), or 9 (N = 113) at Time 1. They originated in Argentina (N = 80), Colombia (N = 81), Cuba (N = 108), and Haiti

(N = 66). This represented 77% of the original population. Attrition was due primarily to movement by participants back to their home countries or to locations in which achievement information was not available. A few (32) students had no test scores at Time 1.

### *Procedure*

Potential participants were contacted and screened for eligibility (residing in the U. S. for less than a year) by an interviewer fluent in their native language. They were given information concerning the study, along with parent permission and child assent forms. Of the eligible participants, 90.4% received consent. If the student returned signed consent and assent forms to the interviewer at a scheduled appointment time, the student was interviewed in a private school location.

### *Measures*

Measures obtained during the interview were indices of prior school performance, immigration stress, economic hardship, school attitudes, and social support from parents, friends, and (at Time 2) school personnel. Project personnel fluent in the languages and dialects of the participants translated the interview measures into Spanish and Haitian Creole. In consultation with the authors, at least two staff members translated and back-translated each measure to make sure that measures held their meaning across languages.

To obtain an indicator of *prior performance*, we asked students whether their school performance in their country of origin had been “above average, average, or below average” (reverse-coded for analysis). The measure of *immigration stress* was a 26-item checklist of stressors related specifically to immigration. Items tapped the domains of social disruption, experiences of prejudice and discrimination, adjusting to new circumstances, exposure to cultural misunderstanding, and family issues. The measure of *economic hardship* was a single item asking, “How often does your family have problems paying for things that the family really

needs, like food, clothing, or rent.” Responses ranged from (1) Never to (5) Almost always.

To index *parent and peer support*, students identified the members of their social networks and indicated which of their network members provided each of six emotional, instrumental, and self-affirmative support functions. The number of support functions provided by parents and by peers were the respective indices of parent and peer support. *Support from school personnel* was assessed with a 9-item 5-point scale developed by Suárez-Orozco & Suárez-Orozco for a study of recent immigrant students. Higher scores indicate more support.

*School attitudes* were measured with an 8-item dichotomous measure adapted from Estrada (1996) and Ford and Harris (1996) that has been used with ethnically diverse populations. Higher scores indicate more positive attitudes.

*Academic performance* indicators were obtained from centralized student records and included classroom grades in reading and mathematics courses, along with reading and math scale scores on a standardized state comprehensive assessment test. Mean end-of-year grades for reading and math courses were calculated, with scores ranging from 0(F) to 4(A). We also relied on student records for information regarding each student’s grade level, gender, country of origin, and, at each time point, English-language proficiency scores (0 = Not at all proficient; 5 = Fully proficient) and number of days absent from school during the year. For analytic purposes, country of origin was dummy coded (Argentinean =1; other = 0; Colombian = 1; other = 0; Haitian = 1, other =0).

## Results

Changes in reading and math performance from Time1 to Time 2 were assessed with repeated measures analyses of variance. Performance changes are depicted in Figure 1. For classroom grades, there was no significant main effect of Time,  $F(1, 316)=0.16$ , but there was a significant effect of Subject,  $F(1,316)=48.64$ ,  $p<.0001$ , indicating that reading grades were

generally higher than math grades. There was also a significant Time by Subject interaction,  $F(1,316)=23.31$ ,  $p<.0001$ , indicating higher grades in reading and lower grades in math over time. Not surprisingly, given advances in grade level, test scores improved significantly over time,  $F(1,243)=783.65$ ,  $p<.0001$ . There was also a main effect of subject,  $F(1,243)=326.65$ ,  $p<.0001$ , counter to that for classroom grades; test scores were higher for mathematics than for reading. The analysis also yielded a Time by Subject interaction,  $F(1,243)=21.78$ ,  $p<.0001$ , indicating that test scores improved more for reading than for math sections of the test.

Predictors of change in performance were assessed through structural equation modeling analyses (AMOS 4). The Time 1 criteria (grades and test scores) were included as exogenous variables along with sex, initial grade level, the dummy-coded country of origin variables, and the Time 1 measures of language proficiency, immigration stress, economic hardship, support from parents and from friends, school attitudes, and school absences. Endogenous variables included the Time 2 measures of language proficiency, immigration stress, economic hardship, parent and friend support, school attitudes, and school absences, along with the criterion indices (Time 2 grades and test scores).

Preliminary analyses indicated that predictors differed somewhat for reading and math performance. Consequently, separate analyses were undertaken for reading and math criteria. Preliminary analyses also indicated no significant paths between the country of origin variables and academic outcomes independent of the remaining predictors, so these paths were not included in the final model. Also eliminated were direct paths between most Time 1 predictors and Time 2 outcomes (except for paths linking comparable Time 1 and 2 measures), as these were largely non-significant, indicating that residual changes in the predictors over time accounted for most of the variance in Time 2 performance. A path between Haitian origin and immigration stress was included in the model as this path was theoretically meaningful and

proved to be significant in preliminary analyses. Links to immigration stress were not significant for the remaining groups. (Haitian children have been found in past research to encounter more deleterious post-migration contexts than other immigrant children [Stepick et al., 2001]).

The results of the analysis of change in reading performance can be seen in Figure 1. Standard fit indices indicate that this model was consistent with the data (CFI=.99 [ $>.95$ =good fit], RMSEA=.07 [ $<.08$ =good fit], PCLOSE=.06 [ $>.05$ =good fit]). Solid paths in the figure were significant at  $p < .05$  or less; broken paths did not reach significance. The primary predictors of improved reading performance were increased language proficiency and increased support from parents. Parent support also contributed to performance indirectly through its association with improved language proficiency. Lower proficiency and more negative school attitudes predicted increased support from peers at Time 2, which, in turn, predicted more negative attitudes. More negative attitudes were associated with a greater number of school absences and school absence predicted lower reading grades. Increased economic hardship was linked to greater immigration stress and increased stress was associated with lower support from parents, which also contributed to school absence. School support was linked to more positive school attitudes. The analysis for changes in math performance yielded results that were largely comparable, although the fit was not as consistent (CFI=.99, RMSEA=.07, PCLOSE=.002). The significance of individual paths was comparable, except that sex of the participant did not predict Time 2 math grades (whereas girls had higher reading grades) and school absence was linked significantly to math test scores as well as math grades.

## Discussion

The purpose of this study was to assess changes in academic performance, and to identify predictors of performance change, in a sample of newly immigrant students from their first to their third post-migration year. The students generally demonstrated improvements in reading

performance over time, but math performance deteriorated relative to reading performance. Improvements in reading would be expected, given increased language proficiency. Math performance, however, is less dependent on language proficiency and might be expected to show smaller gains. The decline in math grades is somewhat unexpected and may suggest that newly immigrant students often arrive with more advanced training in math that bolsters their grades in the first year, but this advantage disappears over time.

The results regarding predictors of performance change are consistent with the theoretical perspectives in which the study was grounded. In line with the convoy model, post-migration stresses accompanying this major life transition appear to compromise the student's availability of parental support and increase the likelihood of support seeking from peers. These support system dynamics may contribute to more negative school attitudes, increased absences from school, and lower performance. The results are also consistent with the Portes and Rumbaut (2001) proposal that harsher post-migration conditions contribute to less positive adaptational outcomes. Haitian students in particular appear to be exposed to increased stress following migration, affirming the uneven contexts of reception across immigrant groups noted by Portes and Rumbaut (2001).

In conclusion, educators across the country are facing a massive wave of immigrant children who often arrive with severely limited language proficiency and who may live in chaotic and stressful socioeconomic contexts. Interventions to assist parents in providing support to immigrant students and to ameliorate the post-migration stresses encountered by these students would likely help to enhance language proficiency, school engagement, and academic performance.

## References

- Estrada, P. (1996, April). *Teacher support during the transition to middle school and its relation to educational functioning in poor urban youth*. Paper presented at the meeting of the American Educational Research Association, New York.
- Ford, D. Y., & Harris, J. J. (1996). Perceptions and attitudes of Black students toward school achievement and other educational variables. *Child Development, 67*, 1141-1152.
- Fuligni, A. J. (1997). The academic achievement of adolescents from immigrant families: The roles of family background, attitudes, and behavior. *Child Development, 68*(2), 351-363.
- Fuligni, A. J. (1998). The adjustment of children from immigrant families. *Current Directions in Psychological Science, 7*, 99-103.
- Jackson, J. S. (in progress). *National Study of American Life*. Institute for Social Research, University of Michigan, Ann Arbor.
- Kao, G., & Tienda, M. (1995). Optimism and achievement: The educational performance of immigrant youth. *Social Science Quarterly, 76*, 1-19.
- Kahn, R. L., & Antonucci, T. C. (1980). Convoys over the life course: Attachment, roles, and social support. In P. B. Baltes & O. G. Brim (Eds.), *Life span development and behavior* (Vol. 3, pp. 253-286). San Diego, CA: Academic Press.
- Nord, C. W., & Griffin, J. A. (1999). Educational profile of 3- to 8-year-old children of immigrants. In D. J. Hernandez (Ed.) *Children of immigrants: Health, adjustment, and public assistance*. Washington, D.C.: National Academy Press.
- Levitt, M. J., Guacci-Franco, N., & Levitt, J. L. (1993). Convoys of social support in childhood and early adolescence: Structure and function. *Developmental Psychology, 29*, 811-818.

Portes, A., & Rumbaut, R. G. (2001). *Legacies: The story of the immigrant second generation*. New York: Russell Sage Foundation.

Rumbaut, R. G. (1997). Ties that bind: Immigration and immigrant families in the United States. In A. Booth, A. C. Crouter, & N. Landale (Eds.), *Immigration and the family: Research and policy on U. S. Immigrants* (pp.3-46). Mahwah, NJ: Lawrence Erlbaum Associates.

Stepick, A., Stepick, C. D., Eugene, E., Teed, D., & Labissiere, Y. (2001). Shifting identities and intergenerational conflict: Growing up Haitian in Miami. In R. G. Rumbaut, & A. Portes (Eds.), *Ethnicities: Children of immigrants in America* (pp. 229-266). New York: Russell Sage Foundation.

Suárez-Orozco, C., & Suárez-Orozco, M. M., (2001). *Children of immigration*. Cambridge, MA: Harvard University Press.

Suárez-Orozco, C., & Suarez-Orozco, M. (in progress). *Longitudinal Immigrant Student Adaptation Project*. New York University, NY.

Waters, M. C. (1997). Immigrant families at risk: Factors that undermine chances for success. In Booth, A., Crouter, A. C., & Landale, N. (Eds.), *Immigration and the family: Research and policy on U.S. Immigrants* (pp. 79-87). Mahwah, NJ: L. Erlbaum.

Zhou, M. (1997). Growing up American: The challenge confronting immigrant children and children of immigrants. *Annual Review of Sociology*, 23, 63-95.

Figure 1. Change over time in Classroom Grades and Test Scores

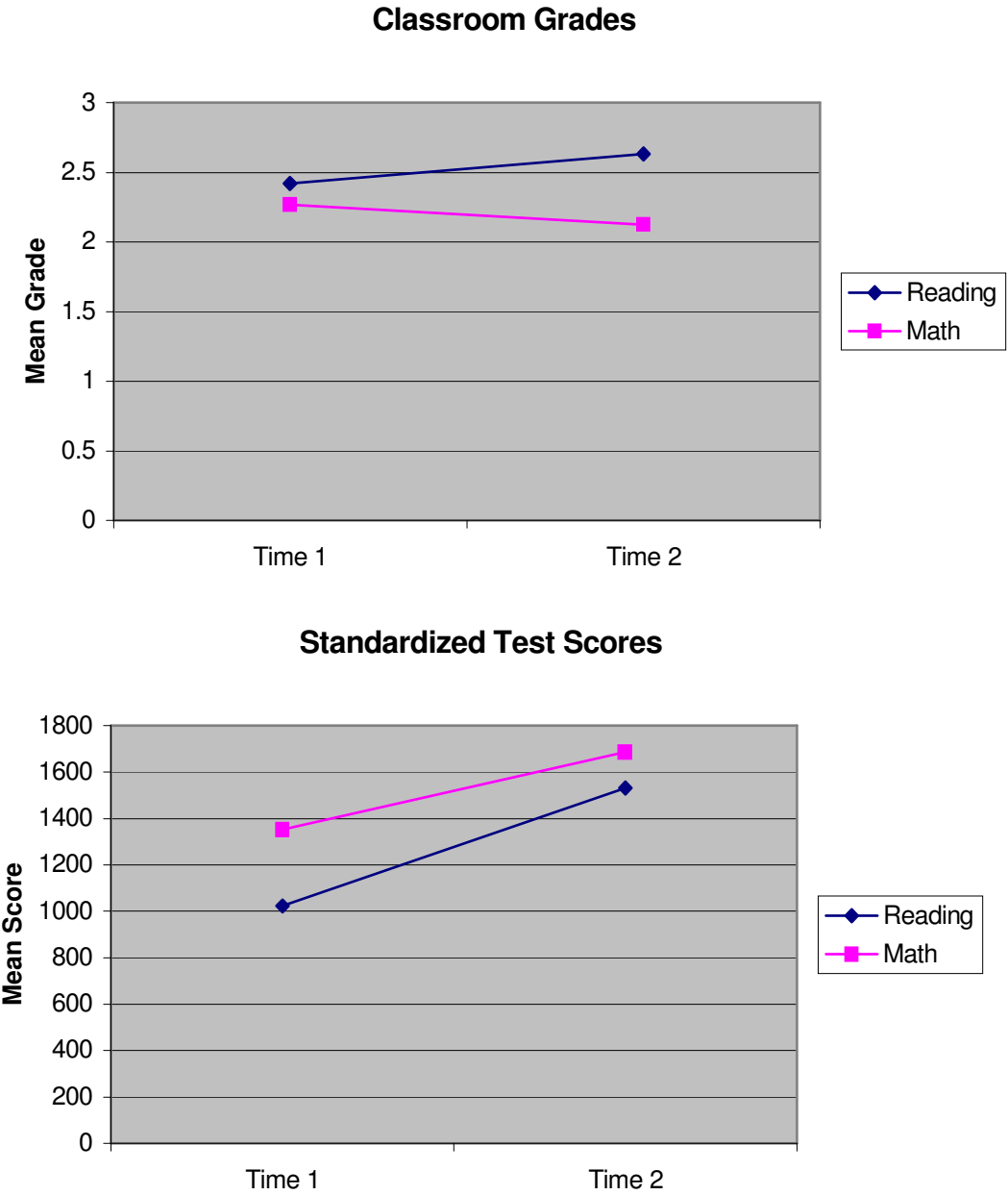


Figure 2. Predictors of Reading Performance Over Time

