The Effect of Source Country on the Academic Achievement of Foreign-born Students in New York City Public Schools

Though today's foreign-born children are disproportionately nonwhite, poor, and Limited English Proficient (Hernandez & Charney 1998), most research indicates that they perform as well or better than their native-born peers in school (e.g. Gibson 1988; Caplan et al. 1989; Kao & Tienda 1995; Kao 1999; Schwartz & Stiefel, forthcoming). Yet there is also tremendous variation in immigrant student performance according to their region of birth, only some of which can be explained by the characteristics of students—namely their race and socioeconomic status—or their schools (e.g. Portes & Rumbaut 2001; Schwartz & Stiefel 2005). Moreover, there is equally substantial variation in performance within source regions (by source country) that has yet to be thoroughly examined (e.g. Kao 1999; Portes & Rumbaut 2001). In fact, we know very little about the relative performance of immigrants from different countries—particularly among those who attend the same school system—and the reasons for such differences. To that end, this study asks the following questions:

1. Which immigrant groups (in particular, from which countries) perform well on standardized math and reading exams and which perform poorly relative to one another and to the native-born?

2. Can these differences in performance be attributed to differences across immigrant groups in the characteristics of students (e.g. poverty, gender, etc.) and their schools (e.g. teacher qualifications)?

3. To what extent do the social and economic conditions of the source countries (e.g. Gross Domestic Product, literacy rate) explain variations in immigrant student performance? Correspondingly, to what extent do the social and economic characteristics of the broader community of co-ethnic immigrants (e.g. average income, % married) explain variations in immigrant student performance?

4. Do these country conditions and immigrant community characteristics affect sub-groups of immigrant students differently (e.g. does the average education of immigrants from the source country affect female and male immigrant students differently?)

Theoretical Framework & Existing Research

Variations in immigrant student performance could be attributable to factors that also influence native-born, such as demographic, economic, social, and academic characteristics of the students and their parents as well as the quality of their schools. Other influences on academic achievement may be more specific to immigrants, such as their experiences in the home country (e.g. whether they received formal schooling, the quality of that training, and whether they were exposed to English). In addition to variations in source country characteristics, children may be influenced by the social and economic characteristics of their co-ethnic immigrant communities, consisting of their neighbors and other compatriots.

The literature on the school performance of immigrant children and, in particular, children of immigrants is growing at a rapid pace (e.g. Matute-Bianchi 1986; Gibson 1988; Caplan et al. 1989; Kao & Tienda 1995; Zhou & Bankston 1998; Waters 1999; Portes & Rumbaut, 2001). However, we have yet to find an empirical investigation of differences in foreign-born student performance by source country within a single school system. Several studies are worth noting, one of which is the launching pad for this study. Using data on NYC elementary and public school students, Schwartz & Stiefel (forthcoming) find substantial variation in test score performance across 12 region groups, with immigrants from Europe and Asia scoring higher than those from the Caribbean and Latin America. These regional differences generally hold after controls for student and school characteristics are included. Other studies of immigrant students suggest equally large variations by source country, again, with only partial explanations for these differences in student characteristics (e.g. Kao & Tienda 1995; Kao 1999). The Children of Immigrants Longitudinal Study examines the experiences of second generation immigrants from over 70 countries in two large metropolitan areas, finding substantial variation across source country (e.g. Portes & Rumbaut 2001). Much of the variation is attributed to variations in the economic and social vitality of the respective ethnic communities. Other research on adult immigrant earnings and returns to education point to the source-country conditions (e.g. economic growth) as determinants of immigrant success (e.g. Borjas 1987; Bratsberg & Ragan 2002).

Data

We have assembled a rich multi-level dataset of students nested in schools and countries. The primary data consists of an administrative dataset on all students and schools in each of the years 1995-96 through 2001-02 in the NYC elementary and middle school system. For each student, the data contain socio-demographic (e.g. race, gender, date of birth, eligibility for free or reduced-price lunch, birth country) and academic (e.g. standardized test scores) data. This pupil file has been merged with three additional data sources: 1) a school-level data set that contains information on school resources; 2) data from the UN Statistics Division on the conditions of each immigrant source country (GDP, % who complete secondary school, official language); and 3) data aggregated up from the 2000 Census on the social and economic characteristics of immigrants in NYC from by birth country. In each year, the data include approximately 600 thousand students (roughly 60 to 70 thousand in each grade) and 800 schools, with identifiers linking students across years and to their schools.

Method

We estimate several models, gradually including the above-listed variables. With respect to identifying differences in performance across immigrant groups, we begin with the following simple regression of test scores on source country: $test_{ij} = \beta_0 + \beta_1 countries_j + \varepsilon_{ij}$

where *test* is the standardized test score for student *i* in country *j* and *countries* is a vector of source country fixed effects, with the US (native-born) as a left out category. This model provides the average performance of students from each country relative to the native-born. We will subsequently examine the statistical significance of these differences with respect to the native-born as well as across countries within regions**.**

To determine whether these source country differences hold controlling for other determinants of performance, our second model will include a set of student-level and school-level covariates in approximation of a standard education production function as follows: $test_{ijk} = \beta_0 + \beta_1 countries_j + \beta_2 stud_{ijk} + \beta_3 sch_k + \varepsilon_{ij}$ where *stud* is a vector of student covariates (e.g. gender, free lunch, whether student is exposed to English in the home) and *sch* is a vector of school-level covariates (e.g. expenditures, % teachers with masters degrees) measured for students in school *k*. In this model, the estimated coefficients on the country indicator variables

represent the average performance of immigrants from each country, adjusted for relevant student and school characteristics.

The next stage of modeling, which is currently underway, seeks to answer research questions 3 and 4 from above by allowing the country fixed effects to be random and explaining this randomness with source country (e.g. GNP) and co-ethnic immigrant community (e.g. % of single families from Russia) characteristics. For these models, we start with standard OLS and will likely move to random coefficients specifications (or hierarchical linear models), which treat the within and between country variation as random and model the two sources of variation with first (student) and second (country) level variables. Since we are now primarily interested in modeling the variation in student performance by immigrant source country, we estimate these models only among the foreign-born.

Borjas, G.T. 1997. "Self-Selection and the Earnings of Immigrants." *The American Economic Review* 77(4): 531-553.

Bratsberg, B. and J.F. Ragan, Jr. 2002. "The Impact of Host-Country Schooling on Earnings—A Study of Male Immigrants in the United States." *Journal of Human Resources* 37(1): 63-105.

Caplan, N., J.K. Whitmore, and M.H. Choy. 1989. *The Boat People and Achievement in America*. Ann Arbor, MI: The University of Michigan Press.

Gibson, M.A. 1988. A*ccommodation Without Assimilation: Sikh Immigrants in an American High School*. Ithaca, NY: Cornell University Press.

Hernandez, D.J. and E. Charney. 1998. *From Generation to Generation: The Health and Well-Being of Children in Immigrant Families*. Washington, D.C.: National Academy Press.

Kao, G. and M. Tienda. 1995. "Optimism and Achievement: The Educational Performance of Immigrant Youth." *Social Science Quarterly* 76(1):1-19.

Kao, G. 1999. "Psychological Well-Being and Educational Achievement Among Immigrant Youth," in Hernandez Donald J., ed., *Children of Immigrants: Health, Adjustment, and Public Assistance,* National Academy Press, Washington D.C.

Matuti-Bianchi, M.G. 1986. "Ethnic Identities and Patterns of School Success and Failure among Mexican-Descent and Japanese American students in a California High School." *American Journal of Education* 95: 233-255.

Portes A.and R.. Rumbaut. 2001. *Legacies: The Story of the Immigrant Second Generation*. Los Angeles, CA: University of California Press and Russell Sage Foundation.

Schwartz, A.E. and L. Stiefel. 2005. "Is There a Nativity Gap? Achievement of New York City Elementary and Middle School Immigrant Students." Forthcoming, *Education Policy and Finance.*

Waters, M.C. 1999. *Black Identities: West Indian Immigrant Dreams and American Realities*. New York: NY: Russell Sage Foundation and Harvard University Press.

Zhou, M. and C.L. Bankston III. 1998. *Growing Up American: How Vietnamese Children Adapt to Life in the United States*. New York, NY: Russell Sage Foundation.