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Chapter Five: Socio-Economic Status as de facto Bilingual Education

Socio-economic status has been shown to be a consistent predictor of student success. Of special interest here is that studies of language minority students have found SES to be a strong predictor of school success, independent of the effects of first language (Rosenthal, Milne, Ellman, Ginsburg, and Baker, 1983; McArthur, 1993).

In this chapter, I discuss, and to some extent re-analyze, data from three reports on the success of language minority students, and argue that in each case socio-economic status plays a clear role. At no time do I argue that SES is the only determinant of academic success. I will argue that socio-economic factors should not be ignored, and that examining why high SES is correlated with success in school may help us design better programs.

Study 1: Toronto

Cummins (1984) presents data from surveys conducted in 1969 and 1975 by the Toronto Board of Education on placement of students in "High Academic" programs (college preparatory). SES classification was based on parents' occupation and all children were in English-only programs. As Cummins points out, there were large differences among language minority groups: A much larger percentage of students who spoke Chinese as a first language was included in the high academic program, even compared to native speakers of English, regardless of SES. Nevertheless, SES played a clear role.

Table 5.1, from Cummins' table 4, confirms that there is little difference between native and non-native speakers of English in academic success when SES is controlled. Among low SES immigrant language minority children, nearly half were in the college preparatory stream, a higher percentage than Canadian-born native speakers of English, while for language minority students born in Canada, an even higher percentage of low SES children were in the high academic program. Figures for higher SES students are similar.

Table 5.1.
Percent of Students in High Academic (College Preparatory)
Program (1979 data)

| First Language | Low SES | High SES | d | r |
|----------------------------------|-----------------|-----------------|-----|-----|
| Not English: Born in Canada | 62% (2163/3489) | 75% (2357/3158) | .28 | .14 |
| Not English: Born outside Canada | 48% (2170/4521) | 67% (1995/2971) | .11 | .06 |
| English: Born in Canada | 40% (1182/4270) | 67% (6276/9270) | .87 | .40 |

from: Cummins, 1984

But SES had an effect. According to my calculations, the difference between the percentage of low SES and high SES students in the high academic program was significant (for first language not English, born in Canada, chi square = 121.73; for first language not English, born outside Canada, chi square = 21.34; for native speakers of English, chi square = 1892.47; in all cases $df = 1$). All these differences were easily statistically significant, because of the large sample size. Effect sizes, however, were small (computed from chi squares; see table 5.1, using Johnson, 1989), except for the native speakers of English ($r = .40$).

My presentation differs from Cummins' table 4; in that table, low SES students are compared with all students, which includes the low SES group. In table 5.1, I compare low SES to the other students, not including the low SES group, which highlights the effect of SES.

As Cummins notes, SES is not the entire story. There is considerable variation in school success among children of equivalent SES and different programs in school produce different results. But SES counts.

Study 2: Los Angeles

The Los Angeles Times (October 17, 1995) reported on transfer rates from bilingual programs in the Los Angeles Unified District. Transfer rate refers to the percentage of students who leave bilingual classes and enter mainstream classes. In the United States, this is considered an indication of success in acquiring academic English.

Transfer rates were presented according to high school cluster, which included all elementary and middle schools that fed into the high school. Twenty-seven

high school clusters were listed. A great deal, from 3.1% in the cluster high of 15%.

SES was not mentioned in the LA Times were taken from LAUSD ranking students receiving AFDC (Aid to Families and 1993, and the percentage of children years. The scores were normalized deviation of 17.5. The SES score for when more than one was designated cluster.

The correlation between SES and transfer rates was substantial ($r = .634$, $p < .01$, $n = 2$) higher transfer rates. SES thus accounts for higher transfer rates. This is a remarkable correlation, and is much stronger than other measures, and is much stronger than other measures (study 1).

Inspection of the scatterplot revealed that in a post hoc analysis, one outlier was removed. In these cases, the average transfer rate for school that was closer to the expected correlation of $r = .705$. The difference in correlation was not, however, significant. The outlier produced an even more impressive correlation.

Study 3: New York

There have been several articles in the press about bilingual education in New York that have been interpreted by critics of bilingual education as children in bilingual programs are superior (e.g. all-English programs are superior).

Data from New York City confirm this (New York City Department of Education, 1994). Table 5.2 presents the data.

5.1.
Academic (College Preparatory)
1979 data)

| S | High SES | d | r |
|--------|-----------------|-----|-----|
| 1/3489 | 75% (2357/3158) | .28 | .14 |
| 1/4521 | 67% (1995/2971) | .11 | .06 |
| 1/4270 | 67% (6276/9270) | .87 | .40 |

calculations, the difference between the students in the high academic program (English, born in Canada, chi square = 21.34; n outside Canada, chi square = 21.34; p = 1892.47; in all cases df = 1). All highly significant, because of the large sample (computed from chi squares; see also the native speakers of English (r =

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95) reported on transfer rates from unified District. Transfer rate refers to students in bilingual classes and enter mainstream considered an indication of success in

high school cluster, which included 1 into the high school. Twenty-seven

high school clusters were listed. Within the LAUSD, transfer rates varied a great deal, from 3.1% in the cluster of schools with the lowest transfer rate to a high of 15%.

SES was not mentioned in the LA Times article. For this analysis, SES estimates were taken from LAUSD rankings, which are based on the percentage of students receiving AFDC (Aid to Families with Dependent Children) in 1992 and 1993, and the percentage of children eligible for free lunch in the same years. The scores were normalized to have a mean of 100 and a standard deviation of 17.5. The SES score for the high school (or mean of high schools when more than one was designated) was used as an estimate of the SES of the cluster.

The correlation between SES and transfer rate was positive, significant, and substantial ($r = .634$, $p < .01$, $n = 27$); clusters with higher SES ratings had higher transfer rates. SES thus accounted for 40% (r squared) of the variance in transfer rates. This is a remarkable result, considering the crudeness of the measures, and is much stronger than the effect sizes found in the Toronto data (study 1).

Inspection of the scatterplot revealed the presence of several outliers. In a post-hoc analysis, one outlier was removed (Chatsworth/Granada) and in two cases, the average transfer rate for a cluster was replaced with that of the school that was closer to the expected score. This resulted in an improved correlation of $r = .705$. The difference between this result and the original correlation was not, however, significant ($z = .438$), but the adjusted correlation produced an even more impressive r squared (49%).

Study 3: New York

There have been several articles in the press recently, reporting that children in bilingual education in New York do not exit their programs and enter the mainstream as quickly as children in all-English/ESL programs. These reports have been interpreted by critics of bilingual education as a demonstration that all-English programs are superior (e.g. Mujica, 1995).

Data from New York City confirms these reports. (New York Board of Education, 1994). Table 5.2 presents typical transfer rates.

5.2. Bilingual Education Participation

| Bilingual Ed | <i>d</i> | <i>r</i> |
|-----------------|----------|----------|
| 42% (3161/6138) | .60 | .29 |
| 22% (99/453) | .84 | .39 |

es in transfer rates between ESL and significant (chi square = 789.57 for those 0.84 for those entering at grade three, es were easily statistically significant. e results, were modest.

s presented by Luis Reyes, a member on: "The test ... compared a group of s of students in the bilingual classes s, like native literacy of the parents, nily income. There were a number of n who came from countries that were rogram came from where they hadn't 1995).

ports Reyes' suggestion. In NYC there guage and exit rates (table 5.3).

5.3. First Language

| Spanish | <i>d</i> | <i>r</i> |
|-----------------|----------|----------|
| 42% (3161/6138) | .42 | .21 |
| 21% (96/457) | .64 | .31 |

non-Spanish and Spanish speaking

students were statistically significant (chi square = 423.82 for kindergarten students, chi square = 68.19 for third graders, $df = 1$ in both cases). Note that the analysis of transfer rates according to SES and according to first language yield nearly identical results, both in terms of percentages and number of children involved. Clearly, the ESL/bilingual education comparison is also a Spanish speaker/non-Spanish speaker comparison. (The languages with the largest representation among the non-Spanish speaking population were Russian, Chinese, and Japanese.)

There is obviously nothing inherent in the Spanish language that accounts for the slower exit rate of Spanish-speaking children. More likely, Reyes is correct: Russian, Korean and Chinese speakers came from more affluent homes.

In table 5.4, I list the effect sizes (correlation coefficients) for the three studies discussed here. The Toronto and LA effect sizes indicate the impact of social class, while the New York effect sizes are based on program and first language. As noted earlier, effect sizes for the Toronto and New York studies are quite different. Note, however, that SES was measured on individual students in the Toronto study, while aggregated scores were used in the Los Angeles study: White (1982) reported that SES correlations with measures of school achievement are higher when aggregated scores are used: In 489 studies using the student as the unit of analysis, the median correlation of SES with school achievement was .221; in 93 studies using aggregated units of analysis, the median correlation of SES with school achievement was .730. Thus, the relationships reported here are quite consistent with what has been found in previous studies. Interestingly, The New York effect sizes are closer to the Toronto results, and they are also based on individual scores, which is consistent with the hypothesis that they do, in fact, reflect SES differences.

Table 5.4.
Effect Sizes (correlation coefficients)

| | | |
|-------------|---------------------|-----|
| Toronto | Born in Canada | .14 |
| | Born outside Canada | .06 |
| Los Angeles | | .63 |
| New York | ESL/Bilingual Ed | .29 |
| | Non-Spanish/Spanish | .21 |

SES and English Language Development

Why do higher SES children appear to acquire academic English more quickly? Previous research and theory provide us with several plausible explanations, and it is likely that all of them are correct:

1. They have had more and better education in their primary language, which means more literacy and greater subject matter knowledge.
2. They have caregivers who are more educated, better prepared to help with school work in the primary language, have more time to interact with the school and more knowledge about interacting with the school (Berliner and Biddle, 1995).
3. Their greater affluence means their parents can provide tutoring in the primary language (see e.g. the case of Grace Cho, discussed in chapter two).
4. They live in a more print-rich environment, with many more books in the home (Feitelson and Goldstein, 1986; Ortiz, 1986; Raz and Bryant, 1990; Constantino, 1995; Fejgin, 1995). There is a clear relationship between living in a print-rich environment and literacy development (Ortiz, 1986; Krashen, 1988; Snow, Barnes, Chandler, Goodman, and Hemphill, 1991). These children should thus have greater literacy development in the primary language, a prediction consistent with the results of studies showing a strong relationship between SES and reading achievement (So and Chan, 1983; Ortiz, 1986; Fernandez and Nielsen, 1986; Chall, Jacobs, and Baldwin, 1990; Snow et al., 1991; Elley, 1992; Lance, Wellborn, and Hamilton-Pennell, 1993; Mullis, Campbell, and Farstrup, 1993; Krashen and O'Brian, 1996).
5. They are more likely to have access to a library. Raz and Bryant (1990) reported that middle-class children averaged more than nine trips to the library each month, while "disadvantaged" children averaged fewer than four. McQuillan (in press), in an analysis of data from the National Household Education Survey, reported that parents with higher levels of education take their children to the library more frequently.
6. They are more likely to have a quiet place to read and study at home, and are more likely to have a good diet.

SES and Bilingual Education

Well organized bilingual education programs provide, in addition to comprehensible input in English, subject matter knowledge in the primary language and literacy development in the primary language. Subject matter knowledge gained through the first language helps make the English the children hear and read more comprehensible, while literacy gained in one language transfers to the second language.

Advantages 1, 2, 3, 4 and 5, listed above, provide limited English proficient children from more affluent backgrounds with a de facto bilingual education

program. Greater first language literacy rich environment (advantages 4 and age, while greater subject matter (advantage 1), parental help (advantage 1) are of addition to kindergarten.

Implied in the above discussion is that factors typically associated with high reading materials in the home is associated with reading achievement independent of SES (1986; Fejgin, 1995). Thus, high SES children have advantages. Low SES children have disadvantages (Cummins, 1984) (and so crucial is that we can improve the advantages of these factors in school.

The interpretation of the Toronto, LA both good news and bad news. It can be on the right track when they provide literacy in the primary language. In doing this, they level the child's home environment that are implied in the positive relationship between SES and reading achievement yet managed to level the playing field. SES is not predictive of English language proficiency such a rich print environment, and so the language that outside factors do not matter.

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program. Greater first language literacy, resulting from living in a more print-rich environment (advantages 4 and 5) helps children entering school at any age, while greater subject matter knowledge from previous schooling (advantage 1), parental help (advantage 2) and tutoring (advantage 3) in the primary language are of additional help to those entering later than kindergarten.

Implied in the above discussion is the view that SES is not causative. Rather, factors typically associated with high SES are causative. The presence of reading materials in the home is associated with social class, but contributes to reading achievement independent of the contribution of social class (Ortiz, 1986; Fejgin, 1995). Thus, high SES is not the only way to provide these advantages. Low SES children have succeeded, as several scholars have pointed out (Cummins, 1984) (and some high SES children have not). What is crucial is that we can improve the achievement of LEP children by providing these factors in school.

The interpretation of the Toronto, LA and NY data presented here, if correct, is both good news and bad news. It confirms that our bilingual programs are on the right track when they provide literacy and subject matter knowledge in the primary language. In doing this, they replicate those aspects of the high SES child's home environment that are helpful for school. But finding a strong positive relationship between SES and school success tells us that we have not yet managed to level the playing field: Our goal should be programs in which SES is not predictive of English language development, schools that provide such a rich print environment, and such excellent education in the primary language that outside factors do not matter.

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