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ABSTRACT

This report presents a comparative analysis of the educational attainments of black, white and Hispanic American children, aged six through seventeen. Information on the role of language characteristics and social class origins as reported in the 1976 Survey of Income and Education is included. The report examines the effects of census region of residence, size of place of residence, age of the child, nativity and language characteristics of the child, and ethnic or language group origin. The report concludes that: (1) black and Spanish language children tended to be enrolled below grade level, and to have lower attainment levels when the percent of children enrolled below expectation was selected as the measure of educational attainment; (2) children from other language minorities had somewhat higher than expected educational attainments; (3) children in the Spanish language group who did not speak English accounted for an important proportion of observed underattainment; (4) foreign born teenagers who did not speak English were more than two years below most other language/nativity groups in the Spanish language sample; (5) children who usually spoke English but retained a minority language had higher net educational attainments; and (6) children with more educated parents were more likely to have higher educational attainments. (JCD)

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Relative Educational Attainments of Minority Language Children, 1976:

A Comparison to Black and White English Language Children

National Center for
Education Statist cs

Relative Educational Attainments of Minority Language Children, 1976:

A Comparison to Black and White English Language Children

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Summary

This report expands on previous studies (Silverman, 1978; McArthur, 1979; and Brown et al., 1980) regarding the relative educational attainments of Black, White, and Hispanic children. In the previous studies educational attainment was defined as the percentage of children who were enrolled one or more grades below the grade in which most children of their age were enrolled. In this report a measure was selected which includes the extent to which such children were enrolled in below grade level but which also permits an appreciation of the extent to which children might be enrolled above grade level.

The first finding of importance is that the choice of the measure has consequences for the analysis. When the percent of children enrolled below expectation is selected as the measure of educational attainment, a comparative analysis tends to finds Black, Anglo-Spanish, and Spanish language children enrolled below grade level. When the mean is selected as the measure of educational attainment, only the Spanish language children are found to have lower than expected attainments.

Secondly, the analysis showed that while children of Hispanic origin and Spanish language tended to have slightly lower than expected attainment levels, children from other language minorities or who had one or more parents with a

minority language background tended to have somewhat higher than expected educational attainments. Consequently, the data do not suggest that children of minority language background are subjected to any discrimination in educational placement per se.

Thirdly, when children who did not speak English were eliminated from the comparisons, the differences in educational attainment between Anglo-Spanish and Spanish language children disappeared, indicating that children who did speak English in the Spanish language group were generally found to be similarly placed with respect to Anglo-Spanish children. In addition, the differences in attainment between Spanish language and White (as defined in the study) children were markedly attenuated, indicating that the children who did not speak English accounted for an important proportion of the observed Spanish language underattainment. Nonetheless, children in the Anglo-Spanish and Spanish language groups had somewhat lower than expected attainment levels, a finding which conforms to previous results (Silverman, Brown et al.).

Fourthly, the analysis of the Spanish language group itself tended to confirm the conclusions drawn from the comparative analyses. Foreign born teenagers who did not speak English had net educational attainments more than two years below those of most other language/nativity groups in the

Spanish language sample. The findings generally indicated that foreign born children tended to be found in slightly lower than expected grade levels, while at the same time the data tended to show that the more anglicized children had higher attainment levels. These findings were not supported in all essentials by the analysis of the Residual language children, who were on the whole much more anglicized than the Spanish language group.

Fifthly, the data support the proposition that the retention of a minority language by children who usually spoke English was associated with higher net educational attainments. Thus, if bilingual education is necessary to help teenagers remain in school and to help prevent younger children from having more severe educational problems as they get older, the goal of such bilingual education programs should not be singly identified as the most rapid anglicisation possible of these children. Rather, it would appear that a bilingual education program should also encourage second language maintenance if optimal educational attainment is desired.

Sixthly, class effects have been consistently found in this research report. Children with more educated parents were significantly more likely to have higher educational attainments themselves. The social class effects were found to be generally stronger for 14-17 year olds than for younger

children, and to be more powerful predictors of the percentage of children found below expected grade level than of the mean attainment level of the group.

Finally, using a procedure designed to estimate the rates at which children were falling behind expected attainment levels, both Black and Spanish language children were found to have more rapid rates of falling behind expected attainments than did other groups. The data suggested, however, that Anglo-Spanish children might be afflicted to a lesser extent by the same problem. Since these rates are relatively independent of both social class and language effects, the findings suggest that a serious effort be launched to reverse these trends among both Black and Hispanic youth, particularly among young men.

I. Introduction

The objective of this report is the presentation of a multivariate, comparative analysis of the educational attainments of young Americans aged six through seventeen in 1976. The multivariate approach is selected to permit the simultaneous examination of several factors which have been shown to be associated with lowered educational attainment. Two factors in particular have retained the attention of previous analysts using the 1976 Survey of Income and Education, the role of language characteristics and the role of social class origins. Silverman (1978), McArthur (1979), and Brown et al. (1980) have shown from cross-tabulations that children who live in households where a non-English language is frequently spoken or who themselves usually speak a non-English language are more likely than other children to be found in lower than expected grade levels. McArthur (1979) and Brown et al. (1980) have also shown social class effects in educational attainment, children from higher income households or having better educated parents being less likely to be enrolled below anticipated grade level. These language characteristic and social class effects are similarly related to decisions to drop-out of high school (Silverman, 1978; McArthur, 1979; and Brown et al., 1980).

What has been lacking in the previous research is an

analysis of the relative contribution of social class and language factors. Since, for example, the maintenance of Spanish language usage is associated with both recent immigration and relatively low parental educational attainment, we need to distinguish between the effects produced by low parental educational attainment and those produced by the language characteristics of the child. It is quite plausible that social class accounts for a large proportion of the lowered educational attainment of children living in homes where a language other than English is frequently spoken. This is not to say that the observed phenomenon has no significance for educational equity; rather, the exact nature of the problem needs to be ascertained before appropriate remedial programs are designed.

The previous research examined social class and language factors within what we shall call "ethnic" parameters. Silverman (1978) contrasts the relative educational attainments of Hispanic and non-Hispanic groups, examining in a comparative manner the impact of the language variables on educational attainment. This procedure is also followed by Brown et al. (1980), although they have explicitly excluded Blacks from their non-Hispanic group. This procedure is closely related to that adopted by McArthur (1979) who defines sequentially an Hispanic origin sample, a Black sample based on racial identifiers, and a residual population which

is largely White. McArthur does not, however, examine the relationship between language characteristics and educational attainment in the non-Hispanic population.

The use of ethnic parameters by these researchers has proved fruitful. McArthur (1979) found that younger Black children were more likely to be enrolled below grade level than Hispanic children. These latter in turn were more often found below grade level than White children. However, in the teenage years Hispanic young people were more likely than Black youth to be found below grade level. Silverman (1978) and Brown et al. (1980) found that Hispanic origin youngsters were more likely than those from other minority language backgrounds to be enrolled below grade level in each defined category of language characteristics, including monolingual English language children who live in homes where a minority language is nonetheless spoken.

These types of comparisons are extremely important. The respective contributions of both ethnicity and language characteristics need to be segregated and compared to the educational situation of other groups. Brown et al. (1980: 89) come the closest to establishing an adequate comparative framework for the analysis of language and ethnic factors when they compare their White and Hispanic samples. They cannot,

however, resolve the comparison group problem for children of Hispanic ancestry who live in households where Spanish is not reportedly spoken with some frequency. Since the immigration of Spanish-Americans is relatively recent in large part, these ethnic Hispanics should not be compared to the White population at large. The White population at large is of much less recent origin.

We have resolved this problem by constructing a special Survey of Income and Education (SIE) sample. The technical procedures used to construct this sample are reported in Appendix A. The objective of this reorganization of the data is the matching of children to their parents, so that parental characteristics can be used as explanatory variables in the educational attainment process.[1] Since the language characteristics of the parents were also obtained, children who had one or more parents of minority language background could be located, even if they lived in households which were reportedly monolingual in English. The identification of these children with anglicized parent(s) permits a more comparison of the educational attainments of English language Hispanics with those of English language children with parents from other minority language backgrounds.

Consequently, we have developed six subsamples which expand upon those used in the previous research. There are

two Spanish origin subsamples, the Spanish language sample and the Anglo-Spanish sample. The former is defined by the presence of Spanish as a frequently spoken household language if the child himself does not frequently speak it; the latter by the presence of one or more parents with a Spanish language background. Similarly, there is a Residual language sample which consists of children living in homes where a language other than English, Spanish, or Navajo is spoken.[2] An Anglo-Residual sample is defined in a manner similar to that by which the Anglo-Spanish sample is defined. In addition, two further samples are defined for the children of parents from totally English language backgrounds, the Black and "White" Anglophone subsamples.[3] The Black sample is defined by applying ethnic criteria to the children left after the language criteria have been applied, while the "White" Anglophone sample consists of the remainder of the population after all previous groups have been defined.[4]

The construction of these six samples permits us to address a certain number of issues. First of all, if ethnic (national origin) criteria are being used to distinguish Hispanic children from White children, then the Anglo-Spanish children should have lower than expected attainment levels. If only the Spanish language children have lower than expected

attainment levels, this should be interpreted as evidence of either language difficulties or linguistic discrimination (as opposed to discrimination based on national origin). Secondly, if linguistic discrimination or language problems are generalized throughout the American educational system, the Residual language children may also be expected to have lower than expected attainment levels. Thirdly, if the children of parents from minority language backgrounds are in general subjected to differential treatment, then the Anglo-Residual children may be expected to have lower than anticipated attainments. Such a situation would provide evidence for the existence of a more general type of national origin discrimination, since these children are clearly English monolinguals. Fourthly, any group of children found to have educational attainments below those expected may be compared to Black children. Such a comparison may permit the relative magnitude of the educational problem to be assessed. Finally, each group can be compared with the White group of children, assuming that their educational attainments and the process by which those attainments are secured constitute the standard against which educational equity must be assessed.

II. Research Procedures

Definition of Educational Attainment. Since all

States impose cut-off dates by which time children must have attained a certain age to permit enrollment in first grade, children of a given age are normally enrolled in two contiguous grades in the Spring of any given year. Thus, older seven year olds will be found in the second grade while the younger ones will be enrolled in the first grade (McArthur, 1979). McArthur therefore considers that these two grades are the modal grades for seven year old children. On the other hand, Silverman (1978) and Brown et al. (1980) fix first grade as the norm for seven year old children, children eight or more years of age considered below grade level in the first grade. In practice all three investigators consider the same children to be below grade level, since it is only with this end of the attainment spectrum that they are concerned.

Nonetheless, educational attainment is normally a variable which is measured in metric form. While some children may be expected to be enrolled below expected grade level, others may be enrolled in a grade level considered advanced for their age. In addition, some children will be found to be further below grade level than others, a possibility not to be minimized. Consequently, we have developed a metric measure of educational attainment which permits a more global assessment of the total range of educational advantages and disadvantages in educational attainment.

This measure of educational attainment is based on the norm defined by Silverman (1978) and Brown et al. (1980). Seven year old children in the first grade were assigned a value of zero (0), indicating no deviation from expectation. An eight year old child in the first grade was assigned a value of minus one (-1), since the child is considered to be one year below grade level. Similarly, a nine year old child was assigned a value of minus two (-2) and a six year old child a value of plus one (+1). This method was applied to each combination of grade level and age.

In addition, we have eliminated the distinction between children enrolled in school and those not enrolled. The previous research has provided separate analyses for each of these groups. However, the findings generally indicate that the same factors account for the percentage of children enrolled below grade level and for the percentage of children not enrolled in school. Children no longer enrolled in school were included in this study by assigning to them the highest year of schooling which they had completed.[5] This value was assigned on the assumption that re-enrollment would likely require the completion of the entire year of schooling for those who had left school during a school year.

On the other hand, children enrolled in school at

the time of the interview (April-July, 1976) were assigned the year of schooling in which they were currently enrolled. This procedure assumes that such students will complete the grade in which they were enrolled, an assumption not likely to be completely valid. However, the decision to have already left school is qualitatively distinct from that to remain enrolled. It is this distinction which we wished to maximize.[6]

Factors examined for their effect on educational attainment. The variables used to examine educational attainment within any given subsample are parental education, Census region of residence, size of place of residence, the age of the child, the nativity and language characteristics of the child, and ethnic or language group origin. A short description of each variable follows.

Parental education is defined as the highest year of education completed either by the head of the household or his wife. Both McArthur (1979) and Brown et al. (1980) have found that better educated parents are less likely to have children enrolled below grade level. Parental education is conceptualized in this report as signifying social class, since it tends to capture the same effects as those related to income (or poverty status) and occupational attainment.[7]

McArthur (1979) also found that children living in the South were more likely to be enrolled below grade level

than children living in the rest of the United States, while children living in suburban areas were less likely than others to be found below grade level. These findings suggest the importance of regional variables in a multivariate analysis. Accordingly, we have introduced the nine Census divisions as a set of dummy variables. Since there were so few children from minority language background living in the South Atlantic and East South Central regions, these two areas were combined into a single Southern region. This region includes most of the Southern states, the exceptions being Texas, Louisiana, Oklahoma, and Arkansas. A second set of dummy variables was introduced to examine the effects of the size of place of residence. These variables were defined as central city, suburban, and outside of an SMSA.

The age of the child was also examined for its effect on educational attainment. Generally speaking, we expected that increased age should be associated with lower educational attainments. In the first place, opportunity to fall behind in school should increase as the child progresses through school. Secondly, although this sample is a cross-sectional survey, the children studied are sufficiently close in age to permit a longitudinal interpretation. The children have been divided into two age groups, 6-13 and 14-17 years of age. This

distinction was made for two reasons. On the one hand, there is no data on highest grade attained for children thirteen years of age and under. On the other, it is relatively unlikely that children will leave school before the age of fourteen.[8] Since we shall examine each age group separately, the maximum period of time in which important institutional changes may have altered the structure of educational attainment is eight years (the period of time which elapsed since the thirteen year olds may have begun school). Since it is unlikely that such major changes have occurred, differences in the net educational attainments of the older as opposed to the younger children may capture some of the effects of the rate at which children are falling behind in school.[9]

The children in the Anglo-Spanish, Anglo-Residual, Black, and White groups are nearly all born in the United States. Consequently, no nativity effect is estimated for for these groups. While a nativity effect was originally estimated for Spanish and Residual language children, the examination of childhood language characteristics revealed a clear pattern of interaction between nativity and language. An interactive set of dummy variables was developed which produces markedly higher proportions of the variance explained. The interactive set of variables combines each category of nativity (foreign born, native born) with each of four language

characteristic categories.

The first language characteristic group defined consists of children who were reportedly monolingual in English. They usually spoke English and did not "often" speak some other language. The second language characteristic group contains English bilinguals, that is, children for whom such second language use was declared. The third category defined is labelled "Spanish bilingual" or "Non-English language bilingual" and indicates children who usually spoke some language other than English but who also spoke English. No distinction was made between those who reported high competency and those who reported lower competency in English.[10] The final language characteristic category consists of children who reportedly did not speak English "often." When combined with each nativity category, these four language characteristic groups create a series of eight dummy variables. The reference characteristic used in the Spanish and Residual language equations is the category of native born children who were English monolinguals.[11]

A final set of factors examined in this report apply only to the Spanish, Anglo-Spanish, Residual, and Anglo-Residual groups.[12] In the case of the two former groups the relative contribution of ethnic origin is examined. While

Brown et al. (1980) do not find important differences in the educational attainment of Puerto Ricans and Chicanos, we shall also examine the relative standing of Cubans and Other Hispanics. In the case of the two groups of Residual language origin we shall examine the specific contribution of each language group by including a series of eleven dummy variables, each representing a specific language group. In general, the purpose of such a procedure is to eliminate some of the remaining heterogeneity resulting from having combined so many distinct groups.[13]

III. Findings

Mean Educational Attainments by Age and Subsample. The means, standard deviations, and sample sizes for each of the retained subsamples is presented in Table 1. The data are presented separately for older and younger children. As expected, the older children in each group have lower attainment levels than their younger counterparts, an empirical finding which sustains the theoretical reasons for considering each separately.

Examining first of all the educational attainments of the 6-13 year old children, Table 1 reveals that White children do not generally enjoy the highest mean attainment levels. The highest mean attainments are achieved by the Residual,

Table 1

Mean Educational Attainment Levels of Children by Age and Background Group, United States, Spring, 1976

Background Group	Educational Attainment		Sample Size	
Children Aged 6-13:	Mean	Standard Deviation	Raw	Weighted
White	.415	.626	4,631	1,939,955
Black	.470	.773	6,320	3,847,025
Spanish	.356	.721	2,741	1,847,599
Anglo-Spanish	.452	.670	917	449,079
Residual	.471	.709	2,580	1,112,952
Anglo-Residual	.471	.630	3,888	1,547,096
Estimated Total (1)	.425			
Children Aged 14-17:				
White	.315	.935	2,637	1,142,759
Black	.163	1.028	3,405	2,128,943
Spanish	-.032	1.073	1,405	907,205
Anglo-Spanish	.277	1.095	365	174,945
Residual	.391	.856	1,479	592,114
Anglo-Residual	.411	.702	2,908	1,156,103
Estimated Total (1)	.279			

Note: (1) Estimated by multiplying the White sample by ten

Source: 1976 Survey of Income and Education

Anglo-Residual, Anglo-Spanish, and Black children. This latter finding is all the more surprising since McArthur (1979) found the highest percentage of children below modal grade level in the Black group. Table 1 shows that only the Spanish language group had mean attainment levels below those of the White (anglophone) group. A technical discussion of the sources of these differences and the impact of different measurement techniques on the findings is presented in Appendix B. Suffice it to say that the choice of the form of the measure of educational attainment is not without consequences for the analysis.

The examination of the mean attainment levels of the 14-17 year olds shows that they conform somewhat more to previous findings. While White children in general still do not have the highest mean attainment levels, they are surpassed only by the Residual and Anglo-Residual children, two groups of presumably recent origin and largely considered to be White. The mean attainment level of the Anglo-Spanish adolescents is situated just below that of the White children. Black youth have attainment levels .1 of a year below those of the Anglo-Spanish. This finding indicates the importance of segregating the Anglo-Spanish from the Spanish language youth in empirical analysis. These latter have by far the

lowest mean educational attainment. This suggests that problems with the English language may retard the progress in school of Spanish language teenagers, but once these handicaps have been overcome (in this case by comparison to an older anglicized Hispanic migration), their attainment levels approach those of the White population as a whole.

The Educational Attainments of Children of Spanish Background. The sample characteristics of Spanish language children aged 6-13 are presented in Table 2, together with the results of the equation estimated for educational attainment. Considering first of all the salient characteristics of the sample, some three-fourths of the children live in the Census regions which include the New York metropolitan area and the States of Texas and California. More than one-half live in SMSA's, the majority in the central city sections of those SMSA's. Average parental education is relatively low, the mean being 10.5 years of completed education.

An examination of the nativity and language characteristics categories reveals that approximately eighty percent of the Spanish children are native born. Nearly all of the native born children are concentrated in the English usual language categories, there being virtually no children who are Spanish monolinguals among the native born. Almost all foreign born

Table 2

Sample Characteristics and Estimated Parameters of Educational Attainment, Spanish Language Children Aged 6-13, United States, 1976

Name of Variable	Character-istics	Metric Coefficient (Standard Error)
Child's age, mean	9.59	-.049 (.006)*
Census region, percent:		
New England	1.7	-.132 (.119)
Middle Atlantic	20.1	-.039 (.069)
East North Central	5.6	.064 (.082)
West North Central	1.0	-.264 (.144)
West South Central	27.2	-.252 (.072)*
Mountain	10.3	-.110 (.076)
Pacific	27.6	-.058 (.069)
#South (1)	6.5	
Size of place, percent:		
Central city	35.7	.054 (.034)
Suburban	21.5	-.072 (.037)
#Non-SMSA	42.8	
Parental education, mean	10.52	.018 (.004)*
Nativity and language characteristics, percent:		
NB, English bilingual (2)	41.4	.047 (.034)
NB, Spanish bilingual	14.9	-.041 (.047)
NB, Spanish monolingual	.6	-.087 (.171)
FB, English monolingual	.8	-.358 (.149)*
FB, English bilingual	9.1	-.115 (.053)*
FB, Spanish bilingual	6.8	-.281 (.060)*
FB, Spanish monolingual	1.2	-.385 (.122)*
#NB, English monolingual	25.3	
Ethnic origin, percent:		
Chicano/Mexican	58.4	-.070 (.042)
Puerto Rican	15.8	-.050 (.052)
Cuban	5.4	-.067 (.070)
#Other	20.3	
Intercept		.811 (.691)
R-squared		.090
N (weighted, raw)	1,847,599	2,741

Notes: (1) includes South Atlantic and East South Central
(2) NB = Native born; FB = Foreign born; see text for definitions of language categories
= reference characteristic; * = $p < .05$

Source: 1976 Survey of Income and Education

children are characterized by bilingual language patterns. Thus, Table 2 makes it clear that there has been considerable movement toward the English language among children living in homes where the Spanish language is actively spoken (see Veltman, forthcoming, for further documentation). Chicanos make up the largest component of the Spanish language sample, Puerto Ricans counting for less than one-sixth and Cubans less than six percent of the sample. While these latter two groups are more visible than the undifferentiated "Other" Hispanic group, this latter group is as large as the Cuban and Puerto Rican groups combined.

Examining the regression equation for educational attainment of these children, Table 2 shows that higher parental education has a significant impact on the attainment process. Each year of parental education is associated with a net increase of .018 of a grade level. This magnitude is, however, rather low, requiring six additional years of parental education to improve the mean standing of the children by more than .1 of a year. The age of the child has the expected negative sign, indicating that the educational attainment of thirteen year olds has dropped by nearly .4 of one year since they began school (.049 for each of eight years).[14]

Passing directly to the nativity and language variables,[15] we observe that four language-nativity categories

have significantly lower attainment levels than the native born, English monolingual reference group. All four of these groups are foreign born, and most of the coefficients for these groups also differ significantly from those of the remaining native born groups. Only one group among the foreign born, the English bilinguals, do about as well in terms of educational attainment as the two native born groups where the Spanish language is retained as usual personal language.[16] If one ignores the regression coefficients for language-nativity groups which contain less than one percent of the sample, the data tend to indicate that foreign birth is associated with some important liabilities in terms of educational attainment, but that movement to an English bilingual language position is associated with optimal educational gains, the difference between English bilinguals and Spanish monolinguals being statistically significant. Movement to the English usual language position appears to be associated with small gains which do not attain the level of statistical significance among the native born, although the data tend to indicate that English bilinguals do somewhat better than English monolinguals.

Of equal interest is the series of regression coefficients for ethnic origin. While children in the Other Hispanic group tend to do somewhat better than others, none of the

coefficients differ significantly from one another. One may be tempted to see in the regional coefficients ethnic differences since Puerto Ricans are so heavily concentrated in the Middle Atlantic region and Cubans in the South, but these differences are also not significant. A similar observation applies to most of the regions where Chicanos reside with the exception of the West South Central region (which includes Texas). Consequently, the data do not indicate the existence of ethnic effects in educational attainment among the Hispanic origin groups.[17]

The relevant data for 14-17 year old young people in the Spanish language group are presented in Table 3. The sample characteristics of the 14-17 year olds strongly resemble those of the younger children. The most important differences occur in the nativity and language characteristic categories. First of all, more of the older children are foreign born in each of the three largest language categories. Secondly, the percentage of Spanish bilinguals is markedly lower than that found for the younger children, while the percentage of English monolinguals is higher among the native born older children. These findings indicate the presence of an important shift away from the use of Spanish as the principal language of the child during the teenage years, a finding which conforms

Table 3

Sample Characteristics and Estimated Parameters of Educational Attainment, Spanish Language Children Aged 14-17, United States, 1976

Name of Variable	Character-istics	Metric Coefficient (Standard Error)
Child's age, mean	15.46	-.149 (.023)*
Census region, percent:		
New England	1.4	.157 (.252)
Middle Atlantic	14.7	-.136 (.146)
East North Central	6.7	.026 (.160)
West North Central	.9	-.015 (.299)
West South Central	26.6	-.308 (.145)*
Mountain	11.8	.031 (.150)
Pacific	30.5	.031 (.143)
#South	7.5	
Size of place, percent:		
Central city	32.9	.090 (.069)
Suburban	20.6	.185 (.076)*
#Non-SMSA	45.5	
Parental education, mean	9.87	.029 (.007)*
Nativity and language characteristics, percent:		
NB, English bilingual	40.5	.152 (.066)*
NB, Spanish bilingual	9.3	-.302 (.106)*
NB, Spanish monolingual	.4	.099 (.416)
FB, English monolingual	.7	.031 (.321)
FB, English bilingual	9.5	.036 (.102)
FB, Spanish bilingual	7.9	-.223 (.111)*
FB, Spanish monolingual	3.3	-2.110 (.162)*
#NB, English monolingual	28.7	
Ethnic origin, percent:		
Chicano/Mexican	60.8	.027 (.080)
Puerto Rican	13.9	-.070 (.113)
Cuban	5.9	-.157 (.147)
#Other	19.5	
Intercept		2.056 (.951)
R-squared		.227
N (weighted, raw)	907,205	1,405

Notes: See Table 2 for symbols and definitions

Source: 1976 Survey of Income and Education

both to theory and observation (Veltman, 1980).

An examination of the regression coefficients reveals that social class effects are more pronounced among the older children. Each additional year of parental education is associated with a net gain of .029 of a grade level. This figure is not quite double that found for the younger children, indicating the greater importance of social class factors during the teenage years. Also more pronounced during the teenage years is the rate at which young people are falling behind expected attainment levels, .149 of a grade level for each additional year of age. This is three times higher than that found for the younger children. Given the four years of age represented in the sample, this figure indicates a net decline of more than two-thirds of a grade level over this period. Obviously, such a rapid decline is caused both by dropping-out of school and by the necessity to repeat grades.

While none of the ethnic origin variables differ significantly from one another, a number of the nativity and language characteristic variables do. Most notably, Spanish monolinguals of foreign birth are found to be more than two years behind the grade level in which otherwise similar native born, English monolinguals are found. This coefficient differs significantly from all other coefficients estimated in this

equation, indicating the joint importance of foreign birth and the inability to speak English.

Both native born English bilinguals and native born English monolinguals are also better educated than the two important Spanish bilingual groups, whose educational attainments are relatively similar. The foreign born English bilinguals are also better educated than these two Spanish bilingual groups, indicating the educational importance of becoming a primarily English-speaking person.[18]

One further difference should be noted. Net of other variables controlled in the equation, native born English bilinguals have higher educational attainments than do native born English monolinguals. This finding suggests that the maintenance of the Spanish language as a second language is related to positive educational attainment.[19]

Summarizing the observed findings for the younger and older Spanish language children, we have found small but positive relationships between higher parental educational attainments and the educational attainments of the children. The effect is more pronounced for the older children. Also more pronounced for the older children is a faster rate of falling behind expected educational attainment levels.

The situation with respect to the nativity and language

characteristics of children is more complex. The most pronounced effect evident for the younger children is a nativity effect, most foreign born groups having lower net educational attainments than most native born groups. There is some evidence of developing linguistic stratification as well in the direction of a positive association between increased movement toward English and higher educational attainment.

If the older children can be presumed to have followed a similar trajectory, then the latent tendancies evident among the younger children explode into a clear pattern of linguistic stratification in the teenage years. Leaving aside the smallest categories, the effects of foreign birth seem to disappear except for the group which in addition cannot speak English. Spanish bilinguals, whether or not foreign born, are also found to have educational attainments significantly below those of the three important English usual language groups. Ironically, in spite of the evidence which suggests that it is not only important to speak English well but also to make it one's usual language, the abandonment of Spanish as a second language (or the failure to teach it to one's children) is not associated with the highest educational attainments. English bilingualism among the native born appears to confer the greatest educational benefits.

Having completed the analysis of children living in Spanish language settings, we turn now to the analysis of the first comparison group, the Anglo-Spanish children. The relevant data for the 6-13 year old children are presented in Table 4, which reveals that the Anglo-Spanish children have somewhat different characteristics than do Spanish language children. First of all, although the data are not presented, nearly all Anglo-Spanish children are native born. Secondly, markedly fewer live in the Census region which includes Texas (West South Central) while markedly more live in the region which includes California (Pacific). This finding conforms to our previous observations regarding more extensive anglicisation in California and less extensive anglicisation in Texas (Veltman, 1980). Thirdly, more Anglo-Spanish children are found in the suburban rather than central city areas of SMSA's. Finally, their parents are substantially better educated than the parents of the Spanish language children (almost three years).

Given the smaller sample sizes most of the regression coefficients are not significant. The parental educational effect is both smaller and insignificant when compared to that observed for the Spanish language children. Thus, even if the sample size were markedly larger, the effect of parental

Table 4

Sample Characteristics and Estimated Parameters of Educational Attainment, Anglo-Spanish Children Aged 6-13, United States, 1976

Name of Variable	Character-istics	Metric Coefficient (Standard Error)
Child's age, mean	9.44	-.024 (.009)*
Census region, percent:		
New England	3.2	-.401 (.150)*
Middle Atlantic	9.6	-.047 (.113)
East North Central	9.2	-.166 (.115)
West North Central	3.3	-.299 (.150)*
West South Central	15.0	-.249 (.109)*
Mountain	15.0	-.165 (.107)
Pacific	38.4	-.184 (.098)
#South	6.2	
Size of place, percent:		
Central city	16.9	.185 (.064)*
Suburban	42.0	.234 (.052)*
#Non-SMSA	41.0	
Parental education, mean	13.17	.008 (.008)
Ethnic origin, percent:		
Chicano/Mexican	61.2	-.124 (.053)*
Puerto Rican	7.8	.108 (.091)
Cuban	.4	-.359 (.372)
#Other	30.6	
Intercept		.689 (.648)
R-squared		.079
N (weighted, raw)	449,079	917

Notes: See Table 2 for symbols and definitions

Source: 1976 Survey of Income and Education

education on the educational attainments of young children would be lower.

While the age coefficient is again significant and negatively signed, it too is of lower magnitude than that found for the Spanish language children. This indicates a slower rate of falling behind expected grade level. Table 5 also indicates the importance of ethnicity in the attainment process of Anglo-Spanish children. Children of Chicano/Mexican ancestry have mean educational attainments significantly lower than those of Puerto Rican and Other Hispanic children.[20]

The relevant data for the older Anglo-Spanish children are presented in Table 5. Few of the coefficients attain statistical significance given the much smaller sample sizes. Among those of some interest is the age coefficient, which while not significant is only half that in magnitude estimated for the Spanish language teenagers. The parental education coefficient is substantially larger than that estimated for the Spanish language teenagers. This is, however, due in part to the fact that retentive language characteristics among the latter are associated with low parental educational attainment. When parental education is regressed on educational attainment in the absence of the nativity and language characteristics, parental education has a much stronger effect in the equation for the remaining Spanish language teenagers.[21]

Table 5

Sample Characteristics and Estimated Parameters of Educational Attainment, Anglo-Spanish Children Aged 14-17, United States, 1976

Name of Variable	Character-istics	Metric Coefficient (Standard Error)
Child's age, mean	15.61	-.069 (.048)
Census region, percent:		
New England	3.6	.299 (.349)
Middle Atlantic	8.0	.533 (.286)
East North Central	5.3	.478 (.317)
West North Central	3.1	.030 (.372)
West South Central	13.1	-.186 (.271)
Mountain	17.8	.220 (.249)
Pacific	42.5	.430 (.235)
#South	6.6	
Size of place, percent:		
Central city	28.4	-.062 (.135)
Suburban	24.6	-.036 (.137)
#Non-SMSA	47.0	
Parental education, mean	12.61	.101 (.016)*
Ethnic origin, percent:		
Chicano/Mexican	50.6	-.190 (.125)
Puerto Rican	4.6	.685 (.272)*
Cuban	.1	.359 (1.66)
#Other	44.7	
Intercept		-.101 (1.01)
R-squared		.184
N (weighted, raw)	174,945	365

Notes: See Table 2 for symbols and definitions

Source: 1976 Survey of Income and Education

Table 5 also shows that Chicano youth tend to have lower than expected attainment levels when compared with Puerto Rican and Other Hispanic teenagers, although the latter comparison does not attain the level of statistical significance. This finding generally conforms to that of the younger children and may indicate the presence of ethnic stratification in the educational system in the regions where Chicano youth are most heavily concentrated.[22]

Having examined the equations for each of the four Hispanic groups, we can go one step further in the comparison of Spanish language and Anglo-Spanish children. The classic method by which such comparisons are accomplished consists in the insertion of the means (for metric variables) and the percentages (for dummy variables) of the characteristics of Group A into the regression output from the equation of Group B. Inserting the means and proportions of the Spanish language group into the regression output of the Anglo-Spanish group,[23] we estimate that younger Spanish children should have a mean educational attainment of .420. Their actual attainment level was .064, indicating that the presence of the Spanish language (and some children of foreign birth) does depress the actual educational attainments of these children to a certain degree. The differences in the characteristics of the two groups are

not adequate to account for the observed differences in mean attainment levels of the two groups.

When this comparative procedure is applied to the 14-17 year old children, similar results are obtained. The differences between expected and observed attainment of the Spanish language children are .050. Consequently, we must conclude that while some of the differences in the mean educational attainments of the two groups are explained by differences in the composition of the groups, there remains a certain (relatively small) part of the difference which is attributable to membership in one or the other of the two groups. Since the principal differences between the two groups are linguistic in nature, this remainder may be attributed to the continued maintenance of Spanish-language use.

The question which arises at this point is whether this penalty for maintenance applies to all children in the Spanish language group, or whether its effects apply specifically to certain of its components. When we remove children who reportedly do not speak English from the comparison, the educational attainments of the remaining Spanish language children attain expected levels. Consequently, it is the presence of children who do not speak English which causes the lower estimated attainment levels, at least when compared with children

from the Anglo-Spanish group. We conclude that with the exception of children who do not speak English all children in the Spanish background groups enjoy comparable educational attainments, whether or not the Spanish language is maintained in the home.

The Educational Attainments of Children of Residual (Language) Background. In the first part of this section of the report we shall carry out a similar comparison between the educational attainments of Residual and Anglo-Residual children. Subsequently, we shall compare the children of Residual backgrounds with their appropriate Spanish origin counterparts. The data for the first of the Residual groups, the 6-13 year olds, are presented in Table 6.

Table 6 reveals that the Residual language children differ in certain important respects from the Spanish language children. First of all, Residual language children are more likely to reside in suburban areas. Secondly, the regional concentrations also vary. The Spanish language children tended to be found in the Southwest and in the New York area. The Residual children are most heavily concentrated in the Middle Atlantic states (New York, New Jersey, and Pennsylvania) and in the Pacific states (notably in Hawaii and California). There is also an important concentration in the Midwest

Table 6

Sample Characteristics and Estimated Parameters of Educational Attainment, Residual Language Children Aged 6-13, United States, 1976

Name of Variable	Character-istics	Metric Coefficient (Standard Error)
Child's age, mean	9.56	-.031 (.006)*
Census region, percent:		
New England	9.7	-.072 (.068)
Middle Atlantic	28.5	.089 (.056)
East North Central	15.0	-.095 (.060)
West North Central	4.0	-.184 (.084)*
West South Central	9.4	-.168 (.070)*
Mountain	3.7	-.111 (.086)
Pacific	21.2	.032 (.058)
#South	8.4	
Size of place, percent:		
Central city	27.2	.057 (.038)
Suburban	32.7	-.134 (.036)*
#Non-SMSA	40.1	
Parental education, mean	12.98	.011 (.004)*
Nativity and language characteristics, percent:		
NB, English bilingual	26.4	.088 (.034)*
NB, NEL bilingual (1)	4.4	.077 (.072)
NB, NEL monolingual	.2	.315 (.301)
FB, English monolingual	3.6	.181 (.076)*
FB, English bilingual	12.4	-.111 (.046)*
FB, NEL bilingual	5.8	-.246 (.064)*
FB, NEL monolingual	.5	-.093 (.200)
#NB, English monolingual	46.8	
Language group, percent:		
Chinese	4.8	.233 (.068)*
Filipino	6.5	-.014 (.063)
French	13.8	.064 (.051)
German	14.4	-.050 (.045)
Greek	4.7	.295 (.068)*
Italian	15.1	-.102 (.046)*
Japanese	1.9	-.060 (.104)
Polish	4.2	.085 (.073)
Portuguese	3.5	.001 (.084)
Scandinavian	.9	.041 (.143)
#Other	30.1	

Table 6
(continued)

	Metric Coefficient (Standard Error)
Intercept	.650 (.686)
R-squared	.075
N (weighted)	1,112,952
N (raw)	2,580

Notes: (1) NEL = any non-English language other than Spanish or Navajo
See Table 2 for definitions and symbols

Source: 1976 Survey of Income and Education

industrial states of children of German language background with smaller but still important concentrations in New England (French, Italian, and Portuguese). There is also some remaining French population in the West South Central region (i.e., in Louisiana). Thirdly, the parental educational achievements of the Residual language parents are markedly higher than those of the Spanish language parents (nearly 2.5 years).

The nativity and language characteristics of the two groups also differ. While fewer of the Residual language children are native born, they exhibit much more anglicized language characteristics. The percentage of native born children who are English monolinguals is very high, while the percentage of Non-English language bilinguals is very low. The shift to the English language is also more pronounced among the foreign born Residual children, less than one-third of these children retaining the non-English language as the usual language spoken. Almost one-half of the foreign born Spanish language children usually spoke Spanish.

Table 6 also provides information on the relative importance of the different language groups which compose the Residual language group. The three largest groups are Italian, German, and French, three groups which appear to be in the

final stages of their anglicisation (Veltman, 1980). The newer immigrant groups already contribute important numbers of children to this group, particularly the Filipino, Chinese, Portuguese, and Greek language groups.

As we have done in the examination of the Hispanic attainment process, we shall focus on the effects of parental education, age, and nativity and language characteristics.[24] While the regression coefficient for parental education is significant, its size is relatively small, smaller than that observed among Spanish language children. Thus, it appears that parental education plays a lesser role in the educational attainments of the Residual language children. A similar observation applies to the effects of increased age. The coefficient is significant but smaller in size than that observed for the Spanish language group.

The examination of the nativity and language coefficients is quite complex. English monolinguals of foreign birth have significantly higher educational attainments than do their counterparts of native birth. On the other hand, the English bilinguals of foreign birth have significantly lower attainments than the native born English monolinguals. Obviously, foreign birth itself is neither a blessing nor a curse in this situation. The lowest educational attainments registered by a sizeable group are those of the most retentive and recently

arrived group, the foreign born Non-English language bilinguals. All three sizeable native born groups have significantly higher attainments than this group, as does the foreign born English monolingual group. Each of these groups also has higher net attainments than the English bilingual group of foreign birth. It does appear then that there is some liability in educational placement associated with foreign birth, which has been overcome by the English monolingual children.

Interestingly enough, the native born English bilinguals have significantly higher attainments than the native born English monolinguals, a finding which parallels that of the Spanish language children. Even the Non-English language bilinguals of native birth have a positive coefficient, although it is not significant. These two observations suggest that some non-English language maintenance in the native born population is important for educational attainment.

Finally, Table 6 also shows that there is some variation in the educational attainment of the various language groups. The Chinese and Greek children are found to have significantly higher attainments than most other groups, while children from Italian language settings have somewhat lower educational attainments than most other groups. However, since the sample sizes are relatively small, and since there is

likely to be some interaction between region of residence and membership in a particular language group, these findings should be interpreted with discretion. The purpose of introducing specific languages into the equation was to reduce some of the heterogeneity of the sample so that the language and nativity effects would be more clearly revealed.

As expected the characteristics of the 14-17 year old children resemble very closely those of the younger children. However, Table 7 does show that the proportion of English monolingual children is even higher in this older age group. This finding again conforms to the theory that anglicisation accelerates in the late teenage years (Veltman, 1980). Only a very small percentage of the native born children usually speak a non-English language by this age.

An examination of the regression coefficients reveals a somewhat different picture than that found for the younger Residual children.[25] Parental education is found to play an important role in the educational attainment process of the older children, the size of the coefficient being still larger than that estimated for Spanish language teenagers. On the other hand, the expected age effect is not present. Other factors contained in the equation better explain the educational attainment process.

Table 7

Sample Characteristics and Estimated Parameters of Educational Attainment, Residual Language Children Aged 14-17, United States, 1976

Name of Variable	Character-istics	Metric Coefficient (Standard Error)
Child's age, mean	15.53	.015 (.020)
Census region, percent:		
New England	12.3	-.200 (.104)*
Middle Atlantic	24.3	.023 (.092)
East North Central	15.7	-.297 (.097)*
West North Central	4.7	-.364 (.126)*
West South Central	14.5	-.229 (.104)*
Mountain	4.4	-.347 (.129)*
Pacific	16.3	-.079 (.098)
#South	7.9	
Size of place, percent:		
Central city	24.7	.156 (.062)*
Suburban	29.7	.073 (.058)
#Non-SMSA	45.6	
Parental education, mean	12.57	.038 (.006)*
Nativity and language characteristics, percent:		
NB, English bilingual	18.6	.172 (.059)*
NB, NEL bilingual	1.5	-.749 (.185)*
NB, NEL monolingual	1.0	-.525 (.211)*
FB, English monolingual	2.9	-.434 (.129)*
FB, English bilingual	11.7	-.071 (.071)
FB, NEL bilingual	5.8	.005 (.099)
FB, NEL monolingual	.8	-.432 (.239)
#NB, English monolingual	57.7	
Language group, percent:		
Chinese	3.1	.017 (.133)
Filipino	3.2	.077 (.134)
French	19.5	-.145 (.075)*
German	14.7	.002 (.071)
Greek	3.8	.179 (.120)
Italian	16.3	.037 (.072)
Japanese	1.9	-.049 (.166)
Polish	4.7	.044 (.111)
Portuguese	4.2	.034 (.121)
Scandinavian	1.8	-.051 (.167)
#Other	27.0	

Table 7
(continued)

	Metric Coefficient (Standard Error)
Intercept	-.211 (.810)
R-squared	.123
N (weighted)	592,194
N (raw)	1,479

Notes: See Tables 2 and 6 for definitions and symbols

Source: 1976 Survey of Income and Education

The nativity and language effects revealed in Table 7 differ substantially from those found for the younger children. The most notable point of correspondance continues to be that of the superior educational attainments of the native born English bilingual children. However, both groups of native born children who usually speak a language other than English are characterized by significantly lower educational attainments when compared to the two native born groups of English usual language.

With respect to the foreign born children, those who do not speak English have lower net estimated attainments when compared to the two bilingual groups of foreign birth. Given the very small sample size, obviously the result of extensive language shift to English, the differences are not significant. Somewhat surprisingly, the English monolingual children of foreign birth are found to have significantly lower attainments than the two bilingual groups of foreign birth, a finding which contrasts with that found for the younger children.

Venturing an interpretation of these findings, the data tend to suggest relatively undifferentiated educational attainments in early childhood. Children not born in the United States seem somewhat more likely to be placed below the expected grade level for their age. Nonetheless, the

children who only speak English appear to receive preferential placement, perhaps because such children are perceived to be extremely competent linguistically. However, when the teenage years are reached and children are more likely to leave school, more normal processes of educational attainment replace the more homogeneous early childhood setting. Class factors re-emerge, and a somewhat different evaluation of language competencies is applied. We suggest that there may be social penalties attached to what is perceived as aberrant social behavior. In the case of native born children it may be considered aberrant to continue to speak some language other than English as one's usual language into the teenage years. In the case of foreign b n children the adoption of English monolingualism may be negatively viewed by family and community authorities. This may indicate the presence of strong cultural norms which value non-material goals (for example, community integrity) at the expense of educational attainment.

Having completed the examination of the Residual children, we turn to the examination of the Anglo-Residual children aged 6-13. These data are presented in Table 8. In contrast to the Anglo-Spanish group the Anglo-Residual sample is very large, larger in fact than the comparable Residual language sample. This indicates the extensiveness of the anglicisation

Table 8

Sample Characteristics and Estimated Parameters of Educational Attainment, Anglo-Residual Children Aged 6-13, United States, 1976

Name of Variable	Characteristics	Metric Coefficient (Standard Error)
Child's age, mean	9.91	-.020 (.004)*
Census region, percent:		
New England	11.6	.027 (.050)
Middle Atlantic	27.0	.055 (.045)
East North Central	20.7	-.009 (.045)
West North Central	7.3	-.083 (.055)
West South Central	7.4	.029 (.045)
Mountain	3.3	-.038 (.067)
Pacific	15.9	.040 (.047)
#South	6.8	
Size of place, percent:		
Central city	16.4	.077 (.030)*
Suburban	38.7	.021 (.024)
#Non-SMSA	44.9	
Parental education, mean	14.13	.024 (.004)*
Language group, percent:		
Chinese	.8	.093 (.117)
Filipino	1.7	.017 (.082)
French	13.6	-.096 (.040)*
German	20.2	-.059 (.032)
Greek	2.9	-.133 (.063)*
Italian	19.7	.021 (.032)
Japanese	4.2	.123 (.057)*
Polish	11.1	.026 (.038)
Portuguese	1.7	.117 (.082)
Scandinavian	3.7	-.075 (.057)
#Other	20.6	
Intercept		.301 (.621)
R-squared		.036
N (weighted, raw)	1,547,096	3,888

Notes: See Table 2 for definitions and symbols

Source: 1976 Survey of Income and Education

of the parents of the children from minority language backgrounds. The parents of the Anglo-Residual children are somewhat better educated than the parents of the Residual language children, a finding which parallels that of the comparable Hispanic groups. These findings may be explained both because of the greater percentage of Anglo-Spanish and Anglo-Residual parents who were born in the United States and because higher educational attainments correspond to more anglicized language patterns.

Examining the equation for educational attainment,[26] both parental education and age effects are significant. The effect of parental education is somewhat stronger than that noted in other equations for 6-13 year old children, while the age effect is somewhat weaker. The Anglo-Residual children are not falling behind as rapidly in their progress through school as children of Residual language origin.

Turning to the equation for the older Anglo-Residual children, the relevant data are presented in Table 9.[27] As was found to be true of the older Residual children, there are no significant age effects present. Net of other factors older children are just as likely to be enrolled in their expected grade level as the younger children in this age group. While the effects of social class origin are significant, they

Table 9

Sample Characteristics and Estimated Parameters of Educational Attainment, Anglo-Residual Children Aged 14-17, United States, 1976

Name of Variable	Characteristics	Metric Coefficient (Standard Error)
Child's age, mean	15.49	.001 (.012)
Census region, percent:		
New England	10.8	.010 (.062)
Middle Atlantic	28.4	-.004 (.052)
East North Central	22.6	.042 (.053)
West North Central	9.0	-.059 (.063)
West South Central	5.2	-.047 (.078)
Mountain	3.0	-.054 (.087)
Pacific	12.6	-.103 (.061)
#South	8.5	
Size of place, percent:		
Central city	15.0	.092 (.039)*
Suburban	39.0	.063 (.030)*
#Non-SMSA	46.0	
Parental education, mean	13.68	.024 (.005)*
Language group, percent:		
Chinese	.5	.016 (.191)
Filipino	.6	.290 (.170)
French	12.3	-.012 (.054)
German	21.0	-.086 (.041)*
Greek	1.4	.068 (.114)
Italian	21.7	-.011 (.041)
Japanese	3.7	.164 (.080)
Polish	11.7	.046 (.048)
Portuguese	1.4	.018 (.117)
Scandinavian	5.5	-.011 (.063)
#Other	20.2	
Intercept		.074 (.697)
R-squared		.021
N (weighted, raw)	1,156,103	2,908

Notes: See Table 2 for definitions and symbols

Source: 1976 Survey of Income and Education

are no larger in magnitude than those found for the younger children. This suggests that social class factors (indexed by parental education) in the Anglo-Residual group are not more important in the teenage years when children begin to leave school. We are left with the impression that progress through school is a relatively constant process for the Anglo-Residual teenagers, a process which is affected but marginally by the educational attainments of the parents.

Having completed the basic analysis of the Residual background groups, we shall procede to the comparative analysis of their educational attainments. When the percentages and means of the 6-13 year old Residual children are inserted into the Anglo-Residual equation, there is virtually no difference between expected and observed Residual educational attainment. When the same procedure is implemented for the older children, the Residual children fall ,051 of a grade level below expectation. Thus, while there are no visible differences in the educational attainments of younger children, the older Residual children fall short of expectations in comparison to the Anglo-Residual children to about the same extent as do Spanish youth in comparison to Anglo-Spanish young persons. As is already evident from Table 7 the removal of persons who are apparently unable to speak English does not

markedly alter this situation. Children who are monolingual in a language other than English compose too small a percentage of the Residual sample and the estimated effects of their monolingualism on educational attainments are too slight to cause important changes in the comparison. We must conclude that Residual language children in the teenage years have slightly lower educational attainment levels attributable to membership in their group.

We shall now attempt one further comparison between the Spanish and Residual origin groups to ascertain whether membership in the Hispanic community is qualitatively different from membership in the non-Spanish minority language communities. When the characteristics of the Anglo-Spanish 6-13 year olds are entered into the equation of the Anglo-Residual children, the expected and observed educational attainments of the Anglo-Spanish group are equivalent.[28] When the same procedure is applied to the older children, Anglo-Spanish attainment is .080 lower than expected. Thus, there is some evidence that net of compositional differences Hispanic ancestry students do not have attainment levels as high as those students from other minority language backgrounds. These differences emerge during the teenage years.

Relatively similar effects are observed for children in the Residual and Spanish language samples. When the

means and percentages of the younger Spanish sample are inserted into the regression equation of the Residual children, Spanish attainment levels are .108 lower than expected. While this difference is already sizeable, it presages the finding of still lower attainments of the older Spanish language children. Using the same procedure, the mean attainments of the Spanish language teenagers are .304 below that expected.[29] The observed differences found for the younger children pale into insignificance when compared to this result. The problem of Spanish language under-attainment can be specified as pertaining particularly to this age group, although the process itself can be identified as beginning earlier.

We conclude then that belonging to the Spanish language group as opposed to some other language group is associated with lower educational attainments, even when the process by which such attainments are achieved has been equalized statistically. While the process begins among the younger children (evidenced both by the relatively high age coefficient and by their comparison to the Residual language children), the process accelerates markedly during the teenage years. Not only does a comparison with the Residual language group demonstrate markedly lower than expected attainments, the age coefficient estimated in Table 3 indicates that these teenagers are falling still further behind grade level at a very rapid

rate. This indicates that when these children finally complete their formal education, the gap between Residual and Spanish language children will be markedly greater than that currently observed.

The ethnic effect observed in the comparison of the Anglo-Spanish and Anglo-Residual children seems relatively small by comparison. Evidently being raised in an English monolingual language setting appears to secure approximately equal outcomes in the educational process. Nonetheless, the comparison of the age coefficients suggests that the expected gap between these two groups of children will be larger when these children have terminated their formal education. Thus, an examination of the data lead us to conclude that there is an ethnic effect in educational attainment, Anglo-Spanish children having somewhat lower educational attainments than the Anglo-Residual children.

The Educational Attainments of White and Black Children. Although we have completed our analysis of language background and language and nativity effects in educational attainment, it is important to attempt some further comparison. We should like to assess the extent to which children of minority language background and parentage enjoy educational outcomes similar to those of other children in American society. We begin with the presentation of the data for young Black

children. These data are presented in Table 10.

Three factors in the column of sample characteristics retain our attention. First, a high percentage of Black children live in the South. The figure is over fifty percent when the West South Central region is included. Second, a higher percentage of Black children live in central cities and a lower percentage in suburban areas than is found in any other group. Third, the mean level of parental education is relatively low, but not as low as that of the Spanish language parents.

In terms of the variables which we have been analyzing,[30] parental education has a positive and significant effect on educational attainment, the size of the coefficient being somewhat larger than that found for most other groups of young children. Table 10 also shows that net Black educational attainment declines by .051 of a grade level for each additional year of age. This coefficient is slightly higher than that estimated for the Spanish children in this age group, indicating a rather rapid rate of falling behind in grade level. Thus, in spite of the high mean attainment level of Black 6-13 year old children (Table 1), these children are falling behind expected grade level at faster rates than other children.

These trends are still more evident among the older Black children, for whom data are presented in Table 11.[31]

Table 10

Sample Characteristics and Estimated Parameters of Educational Attainment, Black Children Aged 6-13, United States, 1976

Name of Variable	Character-istics	Metric Coefficient (Standard Error)
Child's age, mean	9.64	-.051 (.004)*
Census region, percent:		
New England	1.8	-.066 (.072)
Middle Atlantic	16.1	.003 (.030)
East North Central	18.3	.076 (.029)*
West North Central	3.1	-.231 (.056)*
West South Central	12.8	-.095 (.030)*
Mountain	1.0	-.067 (.096)
Pacific	6.6	.218 (.042)*
#South	40.3	
Size of place, percent:		
Central city	43.1	.112 (.023)*
Suburban	14.8	.050 (.031)
#Non-SMSA	42.2	
Parental education, mean	11.76	.030 (.003)*
Intercept		.550 (.748)
R-squared		.064
N (weighted)		3,847,025
N (raw)		6,320

Notes: See Table 2 for symbols and definitions

Source: 1976 Survey of Income and Education

Table 11

Sample Characteristics and Estimated Parameters of Educational Attainment, Black Children Aged 14-17, United States, 1976

Name of Variable	Character-istics	Metric Coefficient (Standard Error)
Child's age, mean	15.49	-.125 (.015)*
Census region, percent:		
New England	1.4	.085 (.145)
Middle Atlantic	14.7	.103 (.055)
East North Central	16.1	.009 (.054)
West North Central	3.5	-.097 (.096)
West South Central	12.9	-.054 (.054)
Mountain	.8	.168 (.196)
Pacific	6.0	.496 (.078)*
#South	44.6	
Size of place, percent:		
Central city	38.7	-.004 (.043)
Suburban	15.5	.049 (.054)
#Non-SMSA	45.9	
Parental education, mean	11.17	.054 (.005)*
Intercept		1.465 (.991)
R-squared		.074
N (weighted)		2,128,943
N (raw)		3,405

Notes: See Table 2 for symbols and definitions

Source: 1976 Surv .. of Income and Education

effects of parental education are even more pronounced, each additional year of parental education being associated with a net increase of .054 of a grade level. The age coefficient is also much larger than that observed among the younger children, Black youth falling behind expected grade level at the rate of .125 of a grade level for each additional year of age. Over the age range of 14-17 years of age, this represents a net decline of one-half of a grade level. This figure remains somewhat lower than that observed among Spanish language teenagers, but it is nonetheless much higher than that observed for any of the remaining groups. It also indicates that when these children have completed their formal education, the educational gap between Black and other children (except the Spanish language group) will be still more unfavorable to Blacks than it currently is. Black and Spanish language children resemble each other rather closely in this respect.

The norm against which all relative educational attainment must be assessed is the attainment of White children. The definition retained for White children in this report emphasizes English language origins, both for the children themselves and for their parents. The data for the younger children are presented in Table 12. These data reveal that the parents of these White children have the highest mean level of educational attainment, although it is only slightly higher

Table 12

Sample Characteristics and Estimated Parameters of Educational Attainment, White Children Aged 6-13, United States, 1976*

Name of Variable	Character-istics	Metric Coefficient (Standard Error)
Child's age, mean	9.61	-.006 (.004)
Census region, percent:		
New England	6.7	-.052 (.040)
Middle Atlantic	15.0	-.031 (.031)
East North Central	21.9	-.106 (.028)*
West North Central	9.5	-.164 (.035)*
West South Central	8.2	-.185 (.038)*
Mountain	5.2	-.151 (.044)*
Pacific	10.9	-.038 (.034)
#South	22.6	
Size of place, percent:		
Central city	10.6	.065 (.031)*
Suburban	31.0	.061 (.021)*
#Non-SMSA	58.4	
Parental education, mean	13.94	.022 (.004)*
Intercept		.207 (.619)
R-squared		.023
N (weighted)		1,939,955
N (raw)		4,631

Notes: See Table 2 for symbols and definitions
* = "White" anglophone children as defined in text

Source: 1976 Survey of Income and Education

than that of the Anglo-Residual parents.

Examining the regression coefficients,[32] we find that parental education is again related to educational attainment of the children. The size of the coefficient is relatively modest, not as large as in some of the equations previously estimated but not as small as in others. Each additional year of parental education is associated with a net increase of .022 of a grade level.[33] In addition, while the age coefficient in this equation is negatively signed, it is not significant. Thus, White children in this age range progress through school at approximately the same rate. There appears to be no specific pattern of falling behind expectation with increased age.

This pattern is maintained in the older age group as well, as is seen from Table 15.[34] No age effect is evident. On the other hand, the effects of parental education are more important in this age group, a finding which conforms to the majority of such comparisons carried out in this report. Presumably, the increased effects of parental education are due to the legal possibility of leaving school, children having parents with lower educational attainments being themselves more likely to leave school. Since these children continue to be included in the sample defined for this study, dropping out

Table 13

Sample Characteristics and Estimated Parameters of Educational Attainment, White Children Aged 14-17, United States, 1976*

Name of Variable	Character-istics	Metric Coefficient (Standard Error)
Child's age, mean	15.50	.007 (.016)
Census region, percent:		
New England	5.0	-.175 (.089)*
Middle Atlantic	15.6	-.045 (.061)
East North Central	23.4	.065 (.054)
West North Central	8.6	-.046 (.073)
West South Central	9.3	-.004 (.071)
Mountain	5.3	.006 (.087)
Pacific	12.1	.024 (.065)
#South	20.9	
Size of place, percent:		
Central city	12.2	-.049 (.057)
Suburban	30.2	.083 (.041)*
#Non-SMSA	57.7	
Parental education, mean	13.61	.059 (.006)*
Intercept		-.612 (.917)
R-squared		.042
N (weighted)		1,142,759
N (raw)		2,637

Notes: See Table 2 for symbols and definitions
* = "White" anglophone children as defined in text

Source: 1976 Survey of Income and Education

tends to depress the mean attainment level more rapidly than staying in school. A child who drops out at age 16 may not complete the year of schooling which 16 year olds normally complete, being by definition already one year behind expectation. At the age of 17 this child is two years below the modal grade. Whatever the precise explanation, these social class effects are relatively powerful in the White population, the size of the coefficient being rather larger than that estimated in most of the other equations for 14-17 year olds. Thus, the data tend to indicate that the effects of social class on educational attainment are somewhat lower in the groups of minority language and/or ethnic origin. This finding suggests that there is relatively greater educational equity based on class factors in these groups.[35]

Using the equations for the White children as the norm against which the relative attainments of the other groups should be assessed, the first comparison concerns the relative standing of Black children. Inserting the characteristics of Black children into the regression equation of White children, we find that the 6-13 year olds have attainment levels .073 of a grade level higher than expected.[36] Using the same procedure for the older childre we find that actual attainment approximates that of expected attainment.[37] The relative advantages enjoyed by the younger children have been eliminated during

the adolescent years.

Applying the same procedure to children in the Residual language group, we find that younger Residual children have educational attainment levels .067 higher than anticipated on the basis of their background characteristics.[38] This advantage is increased to .075 in the teenage comparison. Thus, if anything, children of Residual language background have higher net attainments than the White population of the United States, a finding not entirely inconsistent with previous research (Featherman, 1971). The findings are very similar with respect to Anglo-Residual children, the younger children having mean educational attainment .044 higher than predicted, the older .098 higher than predicted. These findings suggest that these two groups have lower rates of school-leaving during the adolescent years than White children. Since the differences observed between Residuals and Anglo-Residuals tend to disappear when each group is compared with Whites, we should perhaps conclude that neither minority language membership nor parental background appears to be stigmatized in the educational process.

When we compared the Anglo-Spanish and Anglo-Residual groups, we found that the latter enjoyed slight advantages. Given their advantageous position in comparison to the White children, we may expect that Anglo-Spanish and White attainment levels should be rather similar. When the Anglo-Spanish means

and percentages are inserted into the White attainment equations, Anglo-Spanish children aged 6-13 are found to have an educational attainment mean .052 of a grade level superior to that predicted. Similarly, the older Anglo-Spanish children have an educational attainment mean .026 higher than expected.[39] Based on these findings it would be impossible to conclude that the educational outcomes for the Anglo-Spanish children witnessed to the existence of ethnic barriers in the educational system. Nonetheless, the negative (but not significant) regression coefficient for age in the equation for the 14-17 year old Anglo-Spanish children suggests that their situation bears further study.[40] While there is no evidence for under-attainment at the moment of the study, the data suggest that these Anglo-Spanish children may have lower levels of final educational attainment.

As may have been anticipated, the situation is not the same for the Spanish language children. While the younger children have educational attainments .030 higher than expected on the basis of their characteristics, the older children fall .113 of a grade level below expectation.[41] Given the size of the negative coefficient for age, this gap may be expected to widen considerably as these children continue their careers in school. This gap is closed considerably when those who reportedly do not speak English are eliminated from the

comparison. The remaining Spanish language children in this age group have attainment levels only .047 of a grade level below that expected. In other words, well over one-half of the Spanish-White gap is accounted for by children who do not speak English. There remains, nonetheless, an educational gap which may be expected to grow rapidly larger as these children complete their educational careers. This expectation is based on the direction and size of the estimated age coefficient for this group.[42]

Conclusion. Since the choice of the measure of educational attainment significantly affects the findings,[43] we shall confine our concluding remarks to the discussion of only the most significant trends. However, certain preliminary remarks seem warranted with respect to the measurement of the dependent variable. First of all, we are led to pose some questions about the appropriateness of either the one-tail measure adopted by Silverman (1978), McArthur (1979), and Brown et al. (1980) or the metric measure used in this report. When two forms of measurement of the same variable lead to relatively different substantive conclusions,[44] one wonders about the properties which are indeed being measured. Secondly, the low r-squares which characterize all of the equations estimated in this report suggest that most of the variation in educational attainment is randomly produced, that is, due to personal

differences and not linked to the variables included in the equations. This suggests that attempts to measure placement in grade level may be ill-conceived, the variables which we have used being more appropriately connected with decisions to terminate one's formal education than with one's placement in grade level. Obviously, longitudinal data are required to permit this type of analysis.

Given this caveat, certain findings warrant some further discussion. In most of the equations the effects of social class were observed to play a significant role in educational attainment. This was true as well for the White group which served as the norm for our comparisons of relative group attainment levels.[45] Thus, the estimates of the extent to which children in other groups approximate their expected educational attainments include a social class effect. Some may object to having included a social class variable in these comparisons since, for example, the children in both the Black and Spanish language samples have parents with lower educational attainments than those children in the other groups. There is some merit to this objection. The systematic intrusion of social class factors in the educational attainment process is a barrier to educational equity which should not be ignored. However, we have included the social class variable in our comparisons on the grounds that the intrusion of social class

factors into the attainment process is a fact of life. To ignore this reality is tantamount to attributing to ethnicity or language effects which are properly attributable to the social class system. These effects have been documented.

The comparative process pursued in this report, inserting the means and percentages of one group into the regression equation of a second group, reveals certain interesting conclusions. There appears to be a relatively small disadvantage associated with membership in the Spanish language group when compared to the White group. On the other hand, there are apparently some advantages associated with membership in the Residual and Anglo-Residual groups when compared to the White group. These findings indicate that the extent to which educational programming is oriented to the Spanish language group appears warranted.[46]

The "small disadvantages" associated with membership in the Spanish group are obtained after having excluded children in the older age group who do not speak English (with any great frequency, at least). This finding indicates the importance of bilingual education programs for children in this age group. Since the problem is basically associated with foreign birth, some greater attention should be focussed on the educational problems of immigrants to the United States. In addition to having difficulties with the English language

which render access to educational services difficult, these children probably experience experience economic pressures to contribute to family income. This problem would not seem to apply to children in the Residual language group, their parents having relatively high levels of educational attainment and the children themselves being highly anglicized. Consequently, bilingual vocational educational services to these Spanish-speaking teenagers would seem to be important.[47] Bilingual educational programs directed to the Spanish language children would seem to be important to prevent the evolution of such a problem among the younger children.

However, the data contained in the multivariate analysis of both the Spanish and Residual language groups suggest that bilingual education should have a broader scope than the immediate anglicisation (and "mainstreaming") of these children. The data also reveal the importance of the retention of the minority language as a second language, children having such a language pattern having higher attainments than English monolingual children. Thus, bilingual programs should also promote the retention of the minority language.[48] This may have the effect of promoting pride in one's heritage which may facilitate learning.

Finally, the data indicate that two, possibly three, groups are experiencing particularly severe rates of falling

behind expected educational attainment levels. Even when the children who do not speak English are eliminated from the equation, Black and Spanish language teenagers are falling behind expected grade level at the rate of approximately .125 of a grade level per year. Rephrasing the interpretation, an additional 12.5 percent of these teenagers are falling behind expected grade level each year. Although the finding does not attain statistical significance, there are indications that this problem also afflicts Anglo-Spanish teenagers, although not as severely. Since all the children included in this comparison speak English, these problems are principally non-linguistic in nature. These findings suggest that bilingual education programs cannot remedy all of the problems of lower educational attainment which characterize Hispanic children. These problems may be class-related, requiring educational programming that may include motivational components.[49] There does not appear to be a specific reason for maintaining a bilingual component.[50]

Consequently, the broad trends discovered in this research report tend to support a variety of program efforts, bilingual education, bilingual maintenance, bilingual vocational, and broader based programs designed to encourage Black and Hispanic youth to stay in school and perform adequately.

Footnotes

[1] Actually, we have retained the head of the household and his wife (if applicable) and not necessarily the parents of the child. See Appendix A for a discussion.

[2] Children of Navajo language background have been excluded because their educational attainments are markedly lower than those of any other language group contained in the Residual language group. The sample sizes are, however, too small to permit a multiple regression analysis of the type contained in this report.

In addition, the Navajo language group is the only language group characterized by relatively high rates of language retention. The remaining groups in the Residual language group have relatively similar linguistic structures. Once the place of birth of the parents and their language characteristics have been controlled, the linguistic assimilation of their children is very similar from group to group. See Veltman (forthcoming) for the empirical findings.

[3] We have appended the French word anglophone to "White" to remind the reader that we are referring to an English-speaking sample. The word "White" is enclosed by quotation marks to indicate that many of the persons included in the Spanish, Anglo-Spanish, Residual, and Anglo-Residual samples consider themselves to be White. In the remainder of this report we shall refer to the "White" Anglophone group as White, leaving the reader to impose the necessary corrections.

[4] That is, after anglophones of Black and Hispanic ancestry have been defined.

[5] This is only true for 14-17 year olds no longer enrolled in school. Younger children not enrolled in school were omitted from the analysis altogether, since no information was available on the extent of their previous schooling.

[6] The impact of this decision on the analysis is minimal. Over 90 percent of each of McArthur's (1979) three samples were still enrolled in school. In addition, not all of those who were no longer enrolled in school dropped out during the academic year.

[7] In a previous version of this report both the Duncan index of the head of the household and mean household income were included as independent variables. Their net effects were

generally small, often not significant, and sometimes in the opposite direction than expected. Parental education was always the most important predictor of the three variables as measured by the standardized regression coefficient. Since the meaning of the variable is unambiguous and since it alone produces r-squares comparable in magnitude to those produced by all three variables, we decided to use it alone to represent socioeconomic status effects rather than creating an index.

[8] See McArthur (1979) for evidence to support this point.

[9] We have tested the data to be certain that the age effect is indeed independent and does not simply explain part of the variance which other variables could explain. This was done by entering age on the final step of the estimated equations. Generally, age affects but slightly the coefficients estimated for the other variables included in any equation, yielding a relatively independent effect. Thus, it does tend to resemble an overall rate at which children are falling behind in school, net of other variables included in the equation.

[10] The CESS survey indicates that the reported distinction between high and low competency levels is not empirically supported. Contrary to McArthur (1979) we have not used such a distinction. In preliminary testing the differences were not significant anyway.

[11] In addition to these eight clearly defined categories a small residual group was defined. The residual group consists of children for whom an item of information was missing or who spoke more than one non-English language. This group represents some one percent of the Spanish language sample and less than two percent of the Residual language sample. Consequently, this group has been added to the English monolingual group to form the reference characteristic.

[12] The selection of "Black" or "Negro" as an ethnic identifier was also examined for an effect on the educational attainment of Black children. No such effect was found.

[13] A number of other variables were tested for their effects on educational attainment. Eliminated because the effects of the nativity and language characteristics of the child were better attainment predictors were parental nativity, a parental language index, and the language parents spoke to their best friends. Although statistically significant and negatively

related to educational attainment, the number of adults who spoke a non-English language to the child was also eliminated. Similarly, the extent to which children spoke a non-English language to their siblings was eliminated. On the one hand, the measures of these variables were relatively imperfect bebecause children 14 years of age were no longer considered children in the survey and because not all younger children had siblings. While both of these variables indicate that the maintenance of a non-English language is associated with lowered educational attainment, they are highly correlated both with foreign birth and the language characteristics of the child himself. Consequently, the estimation of these coefficients tends to confound the interpretation of the nativity-language coefficients, while not appreciably raising the proportion of the variance explained.

[14] Assuming of course that their experience in school follows the trajectory traced cross-sectionally for the younger children.

[15] We do not wish to give detailed attention in this report to the effects of region and size of place. The data have been presented partly to control for their effects and partly to serve the interests of those concerned with this topic. Some of the effects observed in Table 2 are interesting, notably that central city residence is associated with higher attainment levels than is suburban residence, a difference which is statistically significant. We should also note that the West South Central region will be found to have significantly lower attainment levels in many equations presented in this report.

[16] These differences are tested for statistical significance by using a t-test which takes into account the difference between the two regression coefficients and the size of their standard errors.

[17] This tends to be true even when the ethnic variables are entered into the equation before the regional variables, indicating unequivocably the veracity of this interpretation.

[18] We are ignoring here the 0.4 percent of the Spanish language group which is both native born and Spanish monolingual.

[19] An examination of the regional variables again shows lower net attainments in the West South Central region. Furthermore, it appears that the pattern of city-suburb differences is reversed over time. While younger children are more highly educated in the city, this is no longer true. Suburban children aged 14-17 are the best educated.

[20] The effects of regional variables are also interesting. Children in the South tend to have higher educational attainments than children in other regions. Children in the West South Central region do not have significantly lower attainment levels than those in most other regions. The size of place variables clearly indicate that children living outside SMSA's have lower net educational attainments.

[21] Although the effect is still not as strong as that observed for the Anglo-Spanish 14-17 year olds. In the Spanish language group the estimated effect is .050.

[22] While none of the regional coefficients differs significantly from another, the tendancy of lower net attainments in the West South Central region reappears. In addition, the disadvantages of rural residence observed among the younger children has disappeared.

[23] Similar results are obtained by inserting the characteristics of the Anglo-Spanish group into the regression equation for the Spanish language children. The variables used in this comparison are parental education, region, size of place, age of the child, and ethnicity. Language and nativity effects are omitted since the Anglo-Spanish group has no distribution on these variables.

[24] The geographic effects are not without interest, however. First of all, suburban residence is associated with net lower educational attainments than is residence either in the central city or in non-SMSA regions. Residence in the South tends to be relatively advantageous as well, as is residence in the Middle Atlantic and Pacific regions.

[25] Residence in a suburban area is no longer associated with net negative attainments. However, living in a central city is still associated with positive advantages when compared to non-SMSA residence. Southern residence is even more clearly associated with positive educational attainments for the 14-17 year olds. In addition, the language coefficients indicate that only the Greek children continue to have a relatively favorable position, while the French group has educational attainments significantly lower than many other groups. Since the French children live principally in two regions which also have negative coefficients, this finding is likely to be fairly reliable.

[26] Again, the effects of central city residence are found to be generally positive, although this coefficient does not differ significantly from the coefficient for suburban residence. Region of residence has virtually no relevance in this equation. On the other hand, some differences in language group origin attain significance. The Japanese children seem to have somewhat higher than expected attainments, the Greek and French origin children somewhat lower.

[27] Central city residence is again associated with higher net attainment levels, although both types of SMSA residence patterns lead to higher attainment than residence outside an SMSA. Region of residence is again not important in the Anglo-Residual group. In spite of the relatively large size of the sample, most language group coefficients do not differ either from the reference category (Other languages not listed) or from one another. Among the larger groups the German background children seem to have somewhat lower than expected attainments. As we have indicated in the text of the report, these differences should not be interpreted as anything other than indicative.

[28] The variables used in this comparison are parental education, Census region, size of place, and age.

[29] In addition to the variables listed in the previous footnote, the comparison also includes the nativity-language complex of variables.

[30] The data indicate that children living in central cities have higher net educational attainment than those living outside SMSA's. Their net attainment level is also higher than that of suburban children, although the differences are not significant. The data do not support the proposition that Black children in the South have lower educational attainments. Net of other factors residence in the South is less favorable than residence in only one other region, the Midwestern industrial states.

[31] Looking at the signs of the other coefficients, it appears that Southern residence is slightly less favorable during the teenage years. Nonetheless, children in only one region, the Pacific region, have significantly higher educational attainments than Southern children--markedly higher in fact. The advantages of central city children aged 6-13 no longer exist among the teenagers, size of place of residence making no difference whatsoever.

[32] Both central city and suburban children have higher net attainments than children living outside SMSA's. In addition, children living in the South are again found to have higher net educational attainments than children living in four of the remaining seven regions.

[33] Or looked at another way, an additional year of parental education is associated with finding an additional 2.2 percent of the children enrolled one grade level higher.

[34] As we noted for Black children (note 31), residence in the South is not as favorable in the teenage years. The net educational attainments of White Southern children aged 14-17 are only significantly higher than those of children in New England. The size of place effects are interesting. This is one of the few equations estimated in this eport which demonstrates the popular belief that suburban educa .on is superior to that of educational systems in urban core or non-SMSA areas. On the other hand, given the importance of this subsample numerically, this finding is not without interest.

[35] These are not, however, the only factors in play. The relatively large negative age coefficients in the Spanish and Black teenage groups suggest that there is a high level of dropping-out which is relatively independent of social class factors but which affects the group as a whole.

[36] The variables included in this comparison are listed in Appendix B.

[37] We should note that Appendix B reveals marked differences in the conclusions to be drawn when the dependent variable is defined as percent below grade level. For both the younger and older children the Black group is characterized by higher proportions of children enrolled below grade level than expected.

[38] Nonetheless, as with Black children the younger Residual children are found to have a higher than expected percentage of children enrolled below grade level.

[39] They also have a higher percentage enrolled below grade level than expected.

[40] The NCES study, High School and Beyond, may help provide answers to the questions raised in this study.

[41] The comparison equation is somewhat different than that reported in Appendix B. In the Appendix nativity is included in the regression estimates, a feature which tends to penalize the Spanish language group. This is true because the regression estimate is positive but based on only two percent of the White sample. When applied to the nearly twenty percent of the Spanish group, it raises expected attainments somewhat. In this comparison the variables Census region, size of place, parental education, and age of the child were used. Since the same caveat applies to children in the Residual language group, the advantages estimated in Appendix B understate the actual advantages which these children enjoy when compared to White children.

[42] Some approximation of the final size of the gap could be established by comparing the mean attainments of the 17 year old children, estimating the number of years it will take the White children to attain their probable final educational attainment mean, and applying the age and parental educational coefficients estimated for the 14-17 year old youth.

[43] This is discussed in detail in Appendix B.

[44] Appendix B shows that Black children attain expected levels when measured by the metric variable but not when measured by the one-tailed measure. This is due to the greater percentage of Black children enrolled above expected grade level, a finding which may be related to private schooling for children in higher socio-economic strata.

[45] Quite obviously, these comparisons are statistical in nature. Since each group has different combinations of the characteristics selected for analysis, these comparisons are approximate in nature. They are nonetheless necessary if we wish to obtain some indication of the approximate importance of ethnic and language group factors.

[46] This is even more true when the age effects are included.

[47] Given the economic pressures to which these youth are subjected, the program should provide stipends to entice these youth off the job market.

[48] This retention may serve other national goals as well, such as providing a pool of persons who can capably speak languages other than English. The fact that the current Spanish language

population is so large does not mean that it is not in danger of anglicisation (Veltman, 1980). The German, Italian, and French language groups were once very large in the past as well. In addition, the anglicisation process is probably more rapid now than it was in the past (Veltman, 1980).

[49] Perhaps a good example in this respect is the Street Academy Program developed during the 1960's by the New York Urban League.

[50] On the other hand, there is probably some need to alter the sexual stereotypes of young men with respect to education. Appendix C indicates that the problem of lower than expected attainment levels tends to be more a male than a female problem.

References

Brown, George H., Nan L. Rosen, Susan T. Hill, and Michael A. Olivas
1980 The Condition of Education for Hispanic Americans. Washington: National Center for Education Statistics.

Featherman, David L.
1971 "The Socioeconomic Achievement of White Religio-Ethnic Subgroups: Social and Psychological Explanations, American Sociological Review 36: 207-22".

McArthur, Edith K.
1979 Relative Progress of Children in School: 1976. Washington: Bureau of the Census (Series P-20, No. 337).

Silverman, Leslie J.
1978 "The Educational Disadvantage of Language-Minority Persons in the United States, Spring, 1976," Bulletin of the National Center for Education Statistics (78-B4).

Veltman, Calvin J.
1980 The Assimilation of American Language Minorities: Structure, Pace, and Extent. Washington: National Center for Education Statistics.

Veltman, Calvin J.
Forthcoming "Anglicisation in the United States: The Importance of Parental Nativity and Language Practice," International Journal of the Sociology of Language.

Appendix A: Sample Construction

Since this report deals with two aspects of social life which are logically related to parental characteristics, the language characteristics of children and their educational attainment, a data base was constructed which combined data from the personal record of the child with data from the appropriate personal records of adults. This procedure departs from the usual SIE utilization procedure of combining household or family data with the personal records of individuals. However, many of the interesting variables which we wanted to examine are not found in the household record but in the personal records of other adults. Some of these variables were examined but were subsequently omitted from this report, notably parental language use, parental nativity, and the occupation of the head of the household.

The desire to read data from adult records to a child's record meets with certain technical difficulties. While the Census provided a ready method for the identification of the head of the household and the wife of the head (if applicable), the Census classification of families was sufficiently complex to inhibit the development of a program which would economically place children in the appropriate family, be it primary, secondary, principal, or sub-family. In the interests of parsimony and consistency, children were matched to the head of the household and the wife of the head. In the body of this

report we refer to the head of the household and the wife as being the parents of the children in their household. Technically speaking, this is not always accurate. Nonetheless, the term "parent" is retained for use since it sounds much more colloquial and much less bureaucratic.

Initially all children seventeen years of age and under were extracted from the SIE tape, providing that they were not already married. These children were then divided into three groups, the first of which may be called the non-English language group. This group is defined by four language parameters. Children were selected who either spoke a non-English language themselves (either as their usual language or as a second language "often" spoken) or lived in a household where a non-English language was spoken frequently (either as the principal household language or as a second language "often" spoken). Children thus selected were then assigned to a specific language group by means of the first non-English language encountered, beginning with the child's usual language and subsequently searching in sequence the child's second language, the principal household language, and the second household language. The child was then placed in either of the two language groups studied in this report, the Spanish language group or the Residual language group.

The second group of children selected are those who

lived in English monolingual households but who had one or more parents of non-English language backgrounds. A non-English language background for a parent was determined by the application of three language parameters, each parent either currently speaking the non-English language as a first or second language ("usually" or "often" spoken) or having had such a language for his/her mother tongue ("What language was usually spoken in this person's home when (s)he was a child?"). Having identified such children, they also needed to be assigned to a language group. Since the child himself has no identified minority language, each parent must first be assigned to a language group. This was done on the basis of the first non-English language encountered, beginning with the parent's usual language, continuing with the second language, and finishing with the mother tongue. Then the language groups of both parents (when present) were simultaneously examined. If both parents (or the single parent) belonged to the same language group, that group was assigned to the child. If one of the parents belonged to the English language group, the child was assigned to the language group of the other parent. If each parent belonged to a different minority language group, the child was assigned to a residual category of "mixed" language origins, a group of 381 children (estimated 171,000 when weighted) who have been omitted from the analysis. The

remaining children were then divided into two groups, the Anglo-Spanish and Anglo-Residuals, depending of course on the language background of the minority language parent(s).

The third group of children defined consist of those for whom no non-English language background was detected, neither for themselves nor for their parents. These children were subsequently divided into three groups on the basis of ethnic ancestry (national origin). Children were classified as Black, Hispanic, and "White" Anglophone on this basis. A ten percent sample was randomly drawn to reduce the size of this latter group.

While the Black and "White" Anglophone samples are very large, the Hispanic anglophone sample is rather small. Since the Anglo-Spanish sample is also rather small, these two samples were added together. Testing also indicated that parental educational attainment and regional distribution were also similar, suggesting some homogeneity at the empirical level. Consequently, these two groups are combined into what we have called the Anglo-Spanish group.

Appendix B: Comparative Effects of the Use of One-Tailed And Metric Measurement of Educational Attainment

The first task to be accomplished in this appendix is ascertaining the sources of the different results obtained by applying a metric as opposed to a single-tailed measure of educational attainment. For example, why is it that a single-tailed measure finds that younger Black children are more likely to be enrolled below grade level than other children while a metric measure finds them to be relatively advantaged? To address this question we have constructed an educational profile of the various subsamples, together with a set of subtotals for the Spanish, Black, and White groups. The subtotal for this latter group is obtained by assuming that the Anglo-Residual and Residual groups are White, which conforms to the general treatment accorded them by McArthur (1979) and Brown et al. (1980). These profiles are presented in Table B1.

Since McArthur only presented data for the 14-17 year olds still enrolled in school, her data are not strictly comparable to the data presented in Table B1. Nonetheless, she reports the following percentages of children below expected grade level: White, 8.9%, Black, 16.6%, and Spanish origin, 22.5%. From Table B1 we obtain: White, 9.4%, Black, 19.4%, and Spanish, 23.7%. Considering differences in the sampling parameters the correspondance is evident.

Table 2

Relative Performance in Educational Attainment by Age and Background Group, United States, Spring, 1976

Background Group:	Educational Attainment: Below Mode	Lower Modal	Upper Modal	Above Mode
Children Aged 6-13:				
White	4.2	51.7	41.0	2.4
Residual	5.8	44.6	45.4	4.2
Anglo-Residual	3.8	47.3	45.8	2.2
Total, Residual Background	4.6	46.1	46.2	3.0
Estimated Total, "Whites"	4.3	51.6	41.7	2.5
Spanish	7.7	51.9	37.3	3.1
Anglo-Spanish	3.5	51.1	43.3	2.1
Total, Spanish Background	6.9	51.7	38.4	2.9
Black	7.8	42.9	43.5	5.7
Children Aged 14-17:				
White	9.6	50.1	37.5	2.8
Residual	10.3	44.2	39.9	5.6
Anglo-Residual	6.4	49.5	40.9	3.2
Total, Residual Background	7.7	47.7	40.5	3.5
Estimated Total, "Whites"	9.4	49.8	37.9	2.9
Spanish	25.4	47.6	23.8	3.2
Anglo-Spanish	14.8	42.8	37.4	4.9
Total, Spanish Background	23.7	46.8	26.0	3.5
Black	19.4	42.3	34.3	3.9

Source: 1976 Survey of Income and Education

The correspondance is still more evident for the younger children. Since McArthur (1979) only presented data for 5-13 year old children, a correction must be made. If we presume that all five year old children are enrolled at the modal year, we may obtain an approximation of the percentage of children aged 6-13 enrolled below the mode. We obtain by this procedure from McArthur's work: White, 4.4%, Black, 7.7%, and Spanish origin, 7.0%. These figures are nearly identical to those presented in Table B1, the remaining differences being due to differences in the sampling parameters. McArthur's Hispanic sample is based only on Hispanic ancestry, whereas the Spanish language sample used in this study is based on language factors. To a certain extent this is also true of the Anglo-Spanish sample. In addition, small changes in the size of the Black sample have been introduced, McArthur using racial criteria, while ethnic criteria have been used in this report.

Obviously, we may be reassured that there are no major errors in the treatment of the data. In addition, Table B1 indicates the sources of the differences in the findings obtained. Since the metric measured adopted in this report assigns a positive value to be being placed in the upper of the two modal years identified by McArthur (1979), the educational attainment of young Black children is relatively high. Moreover, Black children are more likely to be enrolled in higher

than modal grades for children of their ages. Some 5.7 percent of the young Black children are enrolled above expected grade level as opposed to only 2.5 percent of White children. This feature alone tends to compensate for the higher percentages of children enrolled below the modal year in the Black group. It is because of this greater range of educational attainment with respect to the age of the child that the standard deviation is higher for the Black children than for any of the other groups in Table 1.

Considering a little longer the one-tailed measure of lower than anticipated educational attainment, Table B1 reveals that Anglo-Spanish and Anglo-Residual 6-13 year olds are somewhat less likely than White children to be enrolled below expected grade level. On the other hand, both the Residual and Spanish language groups have higher percentages enrolled below grade level than does the White group, the Spanish group now approximating the Black group of children in this respect. These findings suggest the empirical importance of dividing the Hispanic origin category of children into its linguistic components. A similar observation applies to Residual language origins. Theoretically, these findings suggest that being of English language origin is an adequate condition for the securing of educational rewards comparable to those of the

larger White population.

This interpretation falters, however, when the older children are examined. While the Anglo-Residual children continue to have lower percentages of children below grade level, the Anglo-Spanish children are characterized by much higher percentages, particularly when compared to the White group. The position of the Anglo-Spanish is markedly better than that of Black young people, nearly twenty percent of whom did not have the educational attainments expected of persons their age. Table B1 reveals very clearly the source of low overall Spanish educational attainment, the performance of the Spanish language teenagers. Over one-fourth of these latter do not have the expected educational attainments, and their numerical importance nearly eradicates the superior performance of the Anglo-Spanish. These data confirm those presented by Brown et al. (1980) to the effect that Hispanic origin is associated with lower attainment levels when compared to the overall White group.

We shall now consider the analytic effects of opting for the metric as opposed to the single-tailed measure adopted by the previous researchers. To achieve this goal we have estimated two equations for "White" anglophone children, using as regressors nativity, Census region, size of place of residence, parental education, and age of the child. In the

first equation the dependent variable is the metric version; in the second it is the one-tailed version. Both equations were estimated using ordinary least squares. Given the size of the White population, the ordinary least squares estimates should prove satisfactory even in the case of a dichotomous dependent variable.

The analytic procedure applied consists of inserting the characteristics of the comparison groups into the regression estimates of the White groups. Such a procedure permits the calculation of an expected attainment level if each group were rewarded according to the coefficients of the White group. These comparisons are carried out in Tables B2 and B3.

Considering first of all the educational attainments of the younger children, Table B2 shows that children from all comparison groups have slightly higher than expected educational attainments when measured by the educational metric. This is consistent with the substantive findings of this report. When, however, only those children enrolled below expected grade level are defined in the dependent variable, the findings differ in certain respects. Both the Anglo-Spanish and the Anglo-Residual groups have somewhat fewer children than expected below grade level. However, the Residual, Spanish, and Black groups are found to have more children than expected enrolled below grade level, in the case of the latter nearly 2.4 percent.

Table B.2

Comparative Educational Attainments of Selected Groups, Metric and One-Tailed Measures, Children 6-13, United States, 1976

Educational Attainment	Spanish Language	Anglo-Spanish	Residual Language	Anglo-Residual	Black
Metric					
Estimated	.326	.400	.404	.427	.397
Actual	.356	.452	.471	.471	.470
Difference	+.030	+.052	+.067	+.044	+.073
One-Tailed*					
Estimated	6.6%	4.6%	3.9%	4.1%	5.4%
Actual	7.7%	3.5%	5.8%	3.8%	7.8%
Difference	+1.1%	-1.1%	+1.9%	-.3%	+2.4%

Source: 1976 Survey of Income and Education

Table B.3

Comparative Educational Attainments of Selected Groups, Metric and One-Tailed Measures, Children 14-17, United States, 1976

Educational Attainment	Spanish Language	Anglo-Spanish	Residual Language	Anglo-Residual	Black
Metric					
Estimated	.123	.251	.315	.313	.151
Actual	-.032	.277	.390	.411	.163
Difference	-.155	+.026	+.075	+.098	+.012
One-Tailed*					
Estimated	17.7%	12.5%	11.8%	9.2%	16.7%
Actual	25.4%	14.8%	10.3%	6.4%	19.4%
Difference	+7.7%	+2.3%	-1.5%	-2.8%	+2.7%

* Percent below grade level

Source: 1976 Survey of Income and Education

Somewhat similar differences are obtained by applying this analytic procedure to the 14-17 year old youth in Table B3. This table also confirms the observations contained in the body of this report and based upon the metric measure, particularly that which finds that the Spanish language young people have attainment levels well below those of other groups. This finding is also supported by the one-tailed measure. However, when using the metric measure Black and Anglo-Spanish youth are estimated to have mean attainments quite close to the White norm. When using the one-tailed measure, the Anglo-Spanish have 2.3 percent more children enrolled below the norm than expected and Blacks some 2.7 percent more than expected. These findings suggest that extreme caution should be used in the selection of a measure of educational attainment. It does not appear that the previous publications have begun to address this issue, an issue which is by no means insignificant. Depending on the measure selected, both Black and Anglo-Spanish children either are or are not enrolled below expectations, these expectations including, however, the effects of social class.

There are some further observations which we should like to make about the role of social class factors as measured by parental educational attainment. First of all, parental

education has a positive and significant effect on the educational attainment of children in each age and background group. In the equation estimated for White 6-13 year old children, for example, each additional year of parental education was associated with a net gain of .022 of a grade level and with a net decline of .9 percent in the percentage of children enrolled below grade level. Secondly, the effects of parental education are more pronounced among teenagers than among younger children. Thus, for White 14-17 year olds each additional year of parental education was associated with a net gain of .058 of a grade level and with a net decline of 2.25 percent in the percentage of children enrolled below grade level.

Thirdly, the parental education variable appears to be a more powerful predictor of the percentage of children enrolled below grade level than it is of the metric measure of educational attainment. For example, the standardized regression coefficient of the parental education variable is .099 in the equation using the metric variable but .126 in that using the one-tailed measure for the educational attainment of White 6-13 year old children. For the older White children the same coefficients are .185 and .225 respectively, indicating the greater importance of parental education in explaining the percentage of children enrolled below grade level.

This greater importance of parental education in the

educational attainment process of the older children explains to a certain extent the lower attainment levels of the Black and Spanish groups. For example, the lower parental educational attainments of the Spanish language group account for 8.4 percent of the older children enrolled below grade level. In addition to this, another 7.7 percent are inexplicably enrolled below grade level (or out of school), inexplicably in the sense that it is not explained by the variables contained in the equation. The lower parental educational attainments of the Black group account for only 5.4 percent of the children enrolled below grade level, while an additional 2.7 percent are inexplicably behind expected attainments. These findings may indicate that the relationship between parental education and child's educational attainment is not entirely linear in form, a suggestion not pursued in this report.

Appendix C: Sex Effects in Educational Attainment

Brown et al. (1980: 82) allege that Hispanic origin females were those most likely to be enrolled below expected grade level. White females were also more likely than White males to be enrolled below grade level. These findings seem intuitively unreal for at least two reasons. The first is the data which show that girls have generally better academic performances in grade school. The second derives from the behavior of working class youth, boys being more likely to drop out, girls to stay in school. The problem with the Brown et al. measure is that it only measures children who are enrolled in school. Those who have dropped out, largely young men we suspect, are not measured at all. Since this problem is not present in the data which we have constructed, we can easily test the Brown et al. proposition.

Given the assumption that both boys and girls are equally distributed across the various categories of variables which we have defined in our equations, the entry of sex as the last step in the equation should permit us to establish the sex differences in attainment (net of course of any differences in background variables). The sex coefficients as estimated for each of the equations in Tables 2-13 are reported in Table C1. The negative sign represents lower attainment for boys and young men.

Table C1

Sex Effects on Educational Attainment by Age and Subgroup, United States, 1976

Subgroup	Age Group	
	6-13	14-17
White	-.115	-.197
Black	-.079	-.203
Residual	-.008	-.269
Anglo-Residual	-.110	-.092
Spanish	-.009	-.040
Anglo-Spanish	-.147	-.003

Source: 1976 Survey of Income and Education

Table C1 leaves no doubt that the proposition formulated by Brown et al. (1980) is a function of their methodology. In each of the twelve equations the young men have lower net attainment levels than the young women. In the largest groups, White and Black, the coefficients are roughly of the same size and indicate that the sex gap in attainment is greater in the teenage years than it is among younger children.

The remaining findings are not without interest. Although there is very little sexual difference in net attainment in the age range from 6-13, Residual males aged 14-17 appear to be more likely than males in any other group to drop behind the attainments of their female peers. In the Anglo-Residual group the sex differences remain relatively constant, males having a lower net attainment on the order of .100.

The two Hispanic groups have still different patterns of sexual differentiation in educational attainment. Although younger boys in the Anglo-Spanish group are further behind their female peers than boys in any other group, during the teenage years these differences have virtually disappeared. There are also relatively small differences by sex in the attainments of the Spanish language children. These findings suggest that part of the generally lower attainments of the older Spanish language children may be explained by the existence of similar (rather than dissimilar) sex patterns of

educational attainment. The Spanish young women may stay in school but they fall behind rapidly, while the Spanish young men drop out and fall behind rapidly. On the contrary, White young women appear more likely to progress as expected through school, exacerbating the differences in educational attainment already nascent in the younger years. This clearly is a problem which warrants further investigation. Brown et al. (1980) clearly lead us astray on this point, due of course to their choice of a measure. It is not, however, young women who should be the focus of concern; the young men have already dropped out of school. Consequently, both groups need to be reached.

*U.S. GOVERNMENT PRINTING OFFICE: 1980-0-721-514/197