DOCUMENT RESUME

ED 246 159 UD 023 682

AUTHOR Myers, Steven C.; King, Randall H.
TITLE Relative Earnings of Hispanic Youth in the U.S. Labor Market.
SPONS AGENCY Employment and Training Administration (DOL), Washington, D.C.
PUB DATE Sep 82
GRANT 1-RO-HD-15435-01
NOTE 48p.; Also contained in UD 023 679.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Black Youth; Comparative Analysis; Educational Attainment; Equal Opportunities (Jobs); Ethnic Discrimination; Higher Education; *Hispanic Americans; Individual Characteristics; *Salary Wage Differentials; Secondary Education; Sex Differences; *Whites; *Youth Employment
IDENTIFIERS National Longitudinal Survey Youth Labor Market Ex

ABSTRACT

The presence of substantial earnings differentials in the youth labor market provides the motivation for this paper, which considers the financial position of Hispanic youth vis-a-vis non-Hispanic White and Black youth. Two fundamental measures of labor market success--average hourly earnings and salary earnings over a year--are employed as dependent variables in the analysis. Before adjusting for differences in observable characteristics among the groups, Hispanics fell between Whites and Blacks in terms of earnings. After adjusting for differences, Hispanics were closer to Whites. A major difference among the groups was education, an important determinant of earnings; among employed Hispanic youth, however, almost three-fifths of the males and over a third of the females were dropouts. Post-school experience was also an important determinant of earnings. In-school experience has positive effects on yearly earnings, while post-school training was a significant determinant of hourly earnings for men (except Mexican-origin men). Hispanics living in the South or in high unemployment areas did worse than the older groups, while married Hispanic men had higher hourly and yearly earnings than unmarried men. Finally, although the analysis shows no more labor market discrimination against Hispanic women than against White women, it suggests that Hispanic males would earn 7 percent more hourly if they were not discriminated against. (CMG)

Relative Earnings of Hispanic Youth in the U.S. Labor Market

Steven C. Myers
Department of Economics
University of Akron

Randall H. King
Department of Economics
University of Akron

This paper was prepared under Grant No. 21-39-81-05 from the Employment and Training Administration, U.S. Department of Labor, under the authority of Title III, part B, of the Comprehensive Employment and Training Act of 1973, as amended. Grantees undertaking such projects under government sponsorship are encouraged to express freely their professional judgment. Therefore, points of view of opinions stated in this paper do not necessarily represent the official position or policy of the Department of Labor. We would like to thank all those who have provided us with their comments at various stages of this paper, especially Dennis Byrne, Timothy Carr, Robert Hall, Daniel Hamermesh, Andrew Kohen, Ross Stolzenberg, and Richard Stratton. Any errors that remain are our own.

Relative Earnings of Hispanic Youth in the U.S. Labor Market

The presence of substantial earnings differentials in the youth labor market provides the motivation for this paper. At a time when we speak of the graying of America, the passing of the post-World War II baby boom, and the increasing dependence of an ever-growing number of retirees on a relatively shrinking number of working men and women, it is vital that we not understate the role of youth in policy formation. What policy makers must consider are the effects of problems encountered early in their labor market experience on the eventual position that youth will hold in the "prime-age" labor force. The youth whom we investigate here are not only laying the foundations for their own economic livelihoods, but are also having an impact on the general economic health of society.

Focusing on Hispanic youth is justified not only by the changing age composition, but also by the changing racial and ethnic composition of the population. The overall U.S. population has indeed aged. However, preliminary data from the 1980 Census show that the principal minority groups--both blacks and Hispanics--have younger age distributions than whites.[1] The size of the Hispanic population has increased substantially in recent years due to relatively high fertility rates, a tendency towards large families, and a continual flow of legal (and illegal) immigrants. Marshall et al. (1980) project that, given a 14% growth rate in the Hispanic population between 1973 and 1978 (as compared to 3.3% for non-Hispanics), Hispanics will represent a larger share of the U.S. population than blacks before the year 2000. Granted the importance

of studying the labor market behavior of youth, the study of Hispanic youth in the labor force has both immediate and long-run policy implications.[2]

In this paper we consider the financial position of Hispanic youth vis-a-vis non-Hispanic white and black youth. Two fundamental measures of labor market success--average hourly earnings and wage and salary earnings in the past twelve months--are employed as dependent variables in the analysis.[3]

To accomplish the objectives of this paper, we first regress the dependent variables on the set of independent variables that are discussed in the next section. We then investigate the role of education in early career earnings. We follow that section with a "wage gap" and "annual earnings gap" analysis that permits investigation of the magnitude of earnings differentials among the youth in the sample. The final section presents the summary and conclusions.

THE DATA, CONCEPTUAL FRAMEWORK, AND HYPOTHESES

The 1979 wave of the National Longitudinal Survey of Youth (NLS) provides the data for the analysis.[4] In addition to detailed sections covering education and training, environmental factors, and labor market variables, the survey instrument includes an extensive work history section and information on personal background characteristics. From the background characteristics that were provided, we were able to construct the racial and ethnic identity of each respondent.[5] Unfortunately, the limited number of observations in the NLS data prevent us from analyzing separately the individual Hispanic groups and from focusing on particular

geographic regions. Thus, our results must be interpreted as applying to "Hispanics" in general and not necessarily to individual Hispanic groups. Nevertheless, we present separate estimates for Hispanics of Mexican origin in order to provide some insights into this single largest Hispanic group. Overall the sample in the analysis is limited to nonenrolled (i.e., not in school) young men and women who were 16 to 22 years of age and were employed as wage or salary workers in civilian occupations in 1979.

The conceptual framework used in this paper follows standard human capital theory. Such implication of human capital models to Hispanics has been done by various authors, including Carliner (1976), Chiswick (1978), Fogel (1966), Reimers (1980), and Tienda (1981b). Analyses of the earnings of youth also abound in the literature (e.g., Antos and Mellow, 1978; Freeman, 1976; Grasso and Myers, 1977; Griliches, 1976; and King, 1978). However, to the best of our knowledge, investigation of the labor market outcomes of Hispanic youth has only recently been undertaken.

We postulate rather straightforward earnings models as described below. (The earnings-gap models are described at a later point in the paper.) As mentioned, the dependent variables in the analysis include the natural logarithm of average hourly earnings on the respondent's current job and the natural logarithm of an adjusted yearly earnings measure.[6] The conventional log forms of the earnings measures are employed for two reasons. First, it more clearly represents the shape of typical age-earnings profiles; second, it allows interpretation of coefficients in the model as percentage changes rather than absolute changes.

The independent variables used in the analysis and their hypothesized effects are presented below.

Education

The positive net relationship between schooling and earnings is well documented (e.g., Becker, 1975; Mincer, 1974). Also documented is the fact that Hispanics, on average, have relatively little formal education and very high dropout rates from high school (e.g., Briggs, Fogel, and Schmidt, 1977; Newman, 1978). It follows from human capital theory that these high dropout rates must be linked either to a relatively high cost of funds for schooling or, more likely, to relatively low rates of return to schooling among Hispanic youth. Nevertheless, the expectation is, of course, that schooling will be positively related to financial sucess. Following Grasso and Myers (1977), we have categorized this variable into 0-8, 9-11, 12, and 13 or more years of formal schooling in order to disentangle the expected nonlinearity in returns to education.

Experience Measures

We use three measures of actual work experience (measured in months). The first of these, EXP, measures the amount of post-school work experience the individual has accumulated, which is expected to be positively related to earnings. Since our sample is young, the youth involved are, most likely, on the upward-sloping portion of their earnings-experience profile, and the variable EXP enters the models linearly. When EXP is included in the same equation with a second measure of experience (i.e., employer-specific experience, TEN), the

interpretation of the EXP and TEN coefficients may be interpreted as the return to general and specific on-the-job training, respectively. The expected sign of TEN is also positive. A third experience variable mesure the respondent's in-school work experience (SEXP). Myers (1980) found SEXP to be a significant determinant of subsequent labor market success (in a sample of college workers). Griliches (1980) found no significant relationship between work in high school and later earnings, but a modest positive effect of work in college on earnings. We hypothesize that in-school experience has a positive payoff in terms of earnings.

Training

The returns to completing a post-school private sector training program (TRCPVT) and to completing a government training program (TRCGVT) are expected to be positive. The important policy questions of the worthiness of particular training programs can only be answered here in a very broad, averaging way due to the heterogeneous nature of the progams that are combined in these variables. Nevertheless, the "controlling" influence of training in the model should yield a better set of results on the education variables.

Occupational Information

The amount of occupational information that the respondents possess is represented by their score on the ten-item Knowlege of the World of Work (KWW) test administered during the interview. At the same time, given the high correlation of a similar variable with IQ results in prior

NLS Youth surveys, we also consider KWW to be a rough control for ability.[7] Since those who exhibit higher levels of labor market information and higher levels of ability should do better in terms of labor market success, we expect to find a positive sign on KWW.

Geographic Variables

We include in this set of variables South/non-South region of residence (SOUTH), urban/rural residence (URBAN), and the (midpointed-categorical) unemployment rate in the local labor market (LOC_U). These variables are included to control for regional price level variations and demand conditions. While the expected sign on SOUTH and LOC_U is negative, we expect a positive sign on URBAN.

Personal History Variables

In all models, we include a variable which takes the value of 1 if the respondent is married (MAR). For young men, this variable is expected to be positively related to labor market success for two reasons. First, it serves as a rough control for differential labor supply behavior. Second, it may proxy for an individual's "attractiveness" to potential employers. For young women, being married may proxy for greater family and home responsibilities, which implies a higher "home wage" and is therefore expected to be negatively related to earnings because of a lower propensity to supply hours to market work. If being married is associated with greater intermittency in labor supply, average hourly earnings will also be lower, owing to the atrophy of human capital skills (Polachek, 1981).

Among Hispanics, the presence of English language difficulties (LANG) is expected to be negatively related to earnings. Lack of proficiency in English may hinder the transferability of skills (Chiswick, 1978), and thus lead to more difficulty in acquiring labor market skills in this country. Our LANG variable is binary, equal to one if the interview had to be conducted in Spanish or if the respondent reported that lack of English fluency hindered his or her ability to get a "good job."

The timing of immigration is shown by Chiswick (1978) to be important. According to that study, an earnings gap exists between the immigrant and the native-born individual, but the gap narrows over time. After 10 to 15 years the gap disappears. Unfortunately, the NLS does not contain the date of immigration. Therefore, two proxies can be used. The first is birth in a foreign country (B_FOR), which distinguishes the immigrant from the native-born resident.[8] The second is foreign residence at age fourteen (FOR_14). According to Chiswick, the longer the time since immigration, the less an earnings disadvantage exists. Thus, the coefficient on B_FOR may be negative, zero, or positive, but is expected to be greater than the sum of the coefficient on B_FOR and the coefficient on FOR_14. That is, FOR_14 is expected to be non-positive.[9]

Additional variables indicate ethnicity (HISP, PUERTO, MEX), race (BLACK) and sex (FEM). In the results that follow we segregate the runs by sex and provide results for total, Hispanic, Mexican, black, and white samples. Ideally, we would prefer to separate all Hispanic groups, but small sample sizes make that impossible.[10]

In the total, the Hispanic, and the Mexican equations, two models are estimated. Model 2 includes the variables LANG and FOR_14. Model 1

omits those measures, since they are fairly highly correlated with other variables in the models, especially with the education set. The high correlation makes it difficult to disentangle the independent effects of the variables and also contributes to high standard errors. The sample is limited to nonenrolled young men and women who were 16 to 22 years of age and employed as wage salary workers in civilian occupations in 1979. All regression equations have been population-weighted because of the intentional oversampling of Hispanics, blacks, and low-income whites. Table 1 lists the variables and the direction of their hypothesized effects.

RESULTS

Gross Comparisons

Prior to reporting the results of the regression equations, it is instructive to discuss briefly the means of variables used in the analysis (Tables 2 and 3). As can be seen, Hispanic men have extremely high dropout rates from high school (almost 60% versus about 40% for black males, and about 25% for white males).[11] However, for all male cohorts the rates are alarming, especially in view of the well-known and well-publicized relationship between high school graduation and labor market success (see, e.g., King, 1978). The dropout rates for women are considerably lower, but still fairly high--34% for Hispanics and about 12% for blacks and whites. In terms of higher education, 7.5% of Hispanic men have completed at least one year of college, a figure that falls between the means for whites (10.7%) and blacks (4.7%). Among Hispanic men,

Table 1

Variables and Direction of Hypothesized Effect in LNWAGE and LNERN Regression Equations

Variable	Expected Sign
ED 0-8	-
ED 9-11	-
ED 13+	+
SEXP	+
EXP	+
TEN	+
TRCPVT	+
TRCGVT	+
KWW	+
SOUTH	-
URBAN	+
LANG[a]	-
LOC_U	-
MAR(Men)	+
MAR(Women)	-
FOR_14[a]	-
HISP[b]	-
MEX[c]	?
PUERTO[c]	?
BLACK	-

Note: For definitions of variables, see text. ED 12 is the reference group. Data base is the 1979 National Longitudinal Survey of Youth. All regression equations are population weighted because of the intentional oversampling of Hispanics, blacks, and low-income whites.

[a]Total, Hispanic, and Mexican equations only (Model 2).

[b]Total equation only.

[c]Hispanic equation only.

Table 2

Means and Standard Deviations of Variables Used in LNWAGE and LNERN Analysis: Young Men

Variable	Total		Hispanic		Mexican		Black		White	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Dependent Variables										
LNWAGE	1.457	0.396	1.371	0.346	1.358	0.350	1.323	0.388	1.482	0.397
LNERN	8.786	0.860	8.628	0.822	8.568	0.852	8.263	1.232	8.871	0.768
Duncan Index	22.833	15.161	20.601	14.069	19.378	13.902	19.618	12.640	23.455	15.498
Independent Variables										
ED 0-8	0.071	0.256	0.282	0.451	0.306	0.463	0.082	0.275	0.053	0.223
ED 9-11	0.215	0.411	0.308	0.463	0.297	0.458	0.323	0.469	0.193	0.395
ED 12	0.616	0.487	0.335	0.473	0.350	0.479	0.548	0.499	0.647	0.478
ED 13+	0.098	0.298	0.075	0.263	0.047	0.213	0.047	0.212	0.107	0.310
SEXP	6.216	14.268	3.990	10.201	3.721	8.739	4.425	12.872	6.637	14.690
EXP	15.428	11.320	16.664	13.140	15.813	12.147	12.845	10.528	15.693	11.234
TEN	14.171	17.301	13.865	16.530	12.302	14.712	12.490	16.244	14.429	17.500
TRCPVT	0.110	0.314	0.077	0.267	0.051	0.220	0.074	0.263	0.118	0.323
TRCGVT	0.021	0.145	0.038	0.192	0.051	0.221	0.077	0.267	0.012	0.111
KWW	6.597	1.962	5.258	2.181	5.084	2.141	5.064	1.980	6.915	1.791
LANG	0.059	0.235	0.291	0.455	0.289	0.455	0.070	0.256	0.039	0.194
SOUTH	0.292	0.455	0.239	0.428	0.273	0.447	0.546	0.499	0.261	0.439
URBAN	0.758	0.428	0.953	0.213	0.937	0.240	0.849	0.359	0.730	0.444
FOR_14	0.029	0.168	0.268	0.444	0.286	0.454	0.002	0.045	0.015	0.120
LOC_U	6.242	2.243	5.676	2.398	5.435	2.531	5.655	1.793	6.368	2.268
MAR	0.170	0.376	0.202	0.402	0.230	0.422	0.088	0.284	0.179	0.384
HISP	0.063	0.244	1.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000
MEX	0.042	0.200	0.657	0.476	1.000	0.000	0.000	0.000	0.000	0.000
PUERTO	0.008	0.091	0.132	0.339	0.000	0.000	0.000	0.000	0.000	0.000
BLACK	0.115	0.319	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
WHITE	0.822[a]	---	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000
AGE	19.688	1.361	19.487	1.494	19.571	1.420	19.808	1.374	19.687	1.347

Note: All means and standard deviations (except LNERN) from LNWAGE equation.

[a]Calculated as residual.

Table 3

Means and Standard Deviations of Variables Used in LNWAGE and LNERN Analysis: Young Women

Variable	Total		Hispanic		Mexican		Black		White	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	ST
Dependent Variables										
LNWAGE	1.216	0.350	1.198	0.307	1.195	0.307	1.166	0.407	1.222	0.346
LNERN	8.373	0.858	8.234	0.994	8.187	0.993	8.067	1.162	8.414	0.802
Independent Variables										
ED 0-8	0.026	0.158	0.146	0.355	0.213	0.412	0.000	0.000	0.020	0.141
ED 9-11	0.110	0.313	0.197	0.399	0.167	0.375	0.126	0.333	0.103	0.304
ED 12	0.671	0.470	0.509	0.502	0.496	0.503	0.610	0.489	0.688	0.463
ED 13+	0.193	0.395	0.148	0.356	0.125	0.332	0.263	0.442	0.189	0.391
SEXP	5.085	10.670	4.487	8.915	3.165	8.114	3.732	10.836	5.264	10.755
EXP	14.780	11.681	13.485	11.325	12.444	9.560	11.211	9.618	15.278	11.833
TEN	12.099	12.711	11.366	12.413	11.603	11.619	9.680	10.843	12.395	12.886
TRCPVT	0.145	0.352	0.095	0.294	0.091	0.290	0.112	0.317	0.151	0.359
TRCGVT	0.035	0.184	0.051	0.220	0.063	0.245	0.130	0.338	0.024	0.154
KWW	6.713	1.842	5.617	2.050	5.493	2.041	5.652	2.034	6.895	1.744
LANG	0.048	0.213	0.190	0.393	0.198	0.401	0.037	0.190	0.039	0.195
SOUTH	0.294	0.456	0.280	0.451	0.274	0.448	0.596	0.492	0.264	0.441
URBAN	0.815	0.388	0.965	0.183	0.973	0.163	0.875	0.332	0.799	0.401
POR_14	0.016	0.125	0.166	0.373	0.169	0.377	0.000	0.000	0.008	0.086
LOC_U	6.082	2.048	5.667	2.294	5.600	2.546	5.727	1.623	6.145	2.064
MAR	0.289	0.454	0.333	0.473	0.296	0.459	0.212	0.410	0.294	0.456
HISP	0.057	0.231	1.000	0.000	1.000	0.000	0.000	0.000	0.000	0.000
MEX	0.029	0.169	0.517	0.501	1.000	0.000	0.000	0.000	0.000	0.000
PUERTO	0.006	0.077	0.106	0.308	0.000	0.000	0.000	0.000	0.000	0.000
BLACK	0.088	0.283	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
WHITE	0.856[a]	---	0.000	0.000	0.000	0.000	0.000	0.000	1.000	1.000
AGE	19.788	1.310	19.615	1.468	19.560	1.541	19.932	1.225	19.785	1.307

Note: All means and standard deviations (except LNERN) from LNWAGE equation.

[a]Calculated as residual.

those of Mexican origin attend college at the same rate as blacks, and at about two-thirds the rate of the entire Hispanic sample. A different story is told for women. In all cases, the female cohorts have a higher incidence of college attendance than their male counterparts. Among women, Hispanics are least likely to have attended college as compared to blacks and whites.

While we find that Hispanic men have fewer months of actual job experience during school, they have more experience than blacks or whites when we measure experience from date of leaving school to the interview date. This is, however, not surprising since all groups are about the same age and since Hispanics have lower educational attainment. Hispanic men place slightly below the overall mean in terms of specific employer experience (TEN). In all cases, men of Mexican origin have lower mean experience values than the set of all Hispanics. In general, the same generalizations regarding the experience measures apply to Hispanic women. However, mean in-school experience of Hispanic women is higher than for blacks, and their post-school work experience is about two months less than that of white women.

Hispanic men are less likely than white men and about as likely as black men to have completed a private sector training program. They are, however, about three times as likely as white men—but only half as likely as black men—to have completed a government-sponsored program. The same generalizations tend to hold for the female cohorts, except that women are more likely than men to have completed a training program outside of regular school. For both men and women, Mexican-origin youth are less likely than all Hispanics to have completed a private sector

training program, but more likely to have completed a government-sponsored program.

We find that Hispanic men and women score about 20 to 25% lower than whites on the occupational information test (KWW). The difference in scores between Hispanics and blacks is negligible. Hispanics of Mexican origin score slightly lower than the total Hispanic sample.

Turning to the geographic variables, we see that Hispanics are much more likely to reside in an urban area than either male or female whites or blacks (over 95% for Hispanics versus about 75% for the total sample of men and just over 80% in the female sample). Hispanics are about as likely as whites to live in the South (about 25%), while over 50% of the black sample resides in that region. Hispanics and blacks face about the same labor market demand conditions, on average. White men and women face higher local unemployment rates.

As is expected in this age range, there are substantial differences among cohorts with regard to marital status. Seventeen percent of the men in the sample were married at the time of the 1979 interview, while 28% of the young women were married. Hispanics are slightly more likely to be married than the black or white samples—20% of Hispanic men and 33% of Hispanic women. Blacks are much less likely than the others to be married. Only 9% of black men and 21% of black women are married.

Twenty-nine percent of Hispanic men reported difficulty in speaking English. That figure fell to about 20% in the female Hispanic sample. Probably the major explanation of this differential between the sexes was the finding that only 17% of the Hispanic women were residing outside the United States at age fourteen, compared to 27% of the Hispanic men.

There was very little difference between Hispanics of Mexican origin and all Hispanics on either the language or residence-at-age-fourteen measures.

Average Hourly Earnings (LNWAGE)

The mean of average hourly earnings (wages) is highest for white youth and lowest for black youth, with Hispanic young men and women in the middle. We also note that Hispanics of Mexican origin (over one-half of all Hispanics) have mean earnings slightly below those of all Hispanics.

We turn now to the estimates from the regression equations for men (Table 4) and for women (Table 5). The use of regression analysis allows us to "control" for differences, both among Hispanics and between Hispanics and the other groups, in order to focus on the independent effects of the variables in the models. Since the focus of this study is on Hispanics, we will discuss below only those equations with direct bearing on the Hispanic cohort—the male and female "total," "Hispanic," and "Mexican-origin" equations. We also report the "black" and "white" equations, and will use those results for purposes of comparison.

Total sample. In this equation we include dummy variables indicating those who are Hispanic and black. We note that while this naïve test exhibits a negative relationship between minority status and hourly earnings, it is statistically significant only for black men.[12] That is, while Hispanics and blacks earn less than whites, only blacks earn significantly less. The bulk of the remaining variables in the total equations—education, post-school experience, occupational information

Table 4

LNWAGE Regression Results for Young Men

	Total		Hispanic		Mexican		Black	White
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2		
Constant	1.312	1.323	1.636	1.689	1.643	1.689	1.285	1.289
	(19.67)	(19.63)	(8.59)	(8.85)	(8.55)	(7.85)	(8.55)	(14.75)
ED 0-8	-.225	-.202	-.153	-.073	-.173	-.104	-.382	-.177
	(-4.65)	(-4.07)	(-2.21)	(-0.94)	(-2.02)	(-1.06)	(-4.22)	(-2.49)
ED 9-11	-.082	-.083	-.035	-.023	-.089	-.082	-.103	-.082
	(-2.83)	(-2.86)	(-0.54)	(-0.35)	(-1.03)	(-0.95)	(-1.98)	(-2.07)
ED 12	---	---	---	---	---	---	---	---
	---	---	---	---	---	---	---	---
ED 13+	.061	.062	.050	.029	-.055	-.077	.042	.065
	(1.57)	(1.60)	(0.51)	(0.30)	(-0.36)	(-0.50)	(0.38)	(1.31)
SEXP	-.004	-.004	.004	.004	.005	.005	-.001	-.001
	(-3.37)	(-3.37)	(1.25)	(1.11)	(1.18)	(1.06)	(-0.47)	(-0.47)
EXP	.007	.007	.004	.005	.004	.005	.008	.008
	(5.60)	(5.65)	(1.39)	(1.78)	(1.21)	(1.46)	(2.68)	(4.41)
TEN	.001	.001	-.002	-.002	-.004	-.004	-.002	-.002
	(1.47)	(1.45)	(-0.80)	(-0.88)	(-1.43)	(-1.41)	(-0.87)	(1.60)
TRCPVT	.033	.033	.201	.199	.016	.017	.183	.013
	(0.93)	(0.93)	(2.09)	(2.08)	(0.11)	(0.12)	(2.10)	(0.28)
TRCGVT	-.028	-.030	.196	.196	.085	.088	.080	-.180
	(-0.36)	(-0.38)	(1.57)	(1.57)	(0.59)	(0.61)	(0.92)	(-1.36)
KWW	.018	.017	-.004	-.004	.001	.001	.025	.020
	(2.74)	(2.58)	(-0.30)	(-0.35)	(0.04)	(0.08)	(1.96)	(2.20)
LANG	---	-.016	---	-.045	---	-.027	---	---
	---	(-0.28)	---	(-0.58)	---	(-0.30)	---	---
SOUTH	-.117	-.124	-.052	-.106	-.011	-.057	-.100	-.126
	(-4.39)	(-4.62)	(-0.89)	(-1.68)	(-0.16)	(-0.76)	(-1.86)	(-3.53)
URBAN	.059	.061	-.058	-.068	-.109	-.119	.038	.056
	(2.21)	(2.27)	(-0.51)	(-0.60)	(-0.83)	(-0.91)	(0.54)	(1.67)
FOR_14	---	-.127	---	-.124	---	-.114	---	---
	---	(-1.57)	---	(-1.53)	---	(-1.15)	---	---
LOC_U	-.013	-.014	-.034	-.036	-.034	-.036	-.018	-.012
	(-2.59)	(-2.68)	(-3.05)	(-3.26)	(-2.54)	(-2.71)	(-1.32)	(-1.83)
MAR	.125	.125	.171	.150	.216	.190	.102	.126
	(4.06)	(4.03)	(2.84)	(2.48)	(2.89)	(2.46)	(1.23)	(3.12)
HISP	-.060	-.031	---	---	---	---	---	---
	(-1.24)	(-0.61)	---	---	---	---	---	---
MEX	---	---	-.061	-.060	---	---	---	---
	---	---	(-0.99)	(-0.99)	---	---	---	---
PUERTO	---	---	-.023	-.035	---	---	---	---
	---	---	(-0.27)	(-0.42)	---	---	---	---
BLACK	-.057	-.059	---	---	---	---	---	---
	(-1.51)	(-1.54)	---	---	---	---	---	---
R_A^2	.17	.17	.13	.14	.10	.10	.20	.15
F	15.65	14.04	2.94	2.92	2.17	2.03	5.57	9.79
Number	1069	1069	200	200	133	133	232	630
Mean of Dep. Var.	1.46	1.46	1.37	1.37	1.36	1.36	1.32	1.48
SD of Dep. Var.	.40	.40	.35	.35	.35	.35	.39	.40

Note: Universe is young men not in school, 16 to 22 years old, employed as wage or salary workers in civilian occupations in 1979. T-statistics are in parentheses.

Table 5

LNWAGE Regression Results for Young Women

	Total		Hispanic		Mexican		Black	White
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2		
Constant	1.124	1.155	1.248	1.241	1.387	1.375	.981	1.132
	(16.17)	(16.52)	(6.33)	(6.17)	(4.62)	(4.53)	(5.39)	(13.41)
ED 0-8	-.105	-.088	-.143	-.158	-.082	-.174	a	-.071
	(-1.45)	(-1.19)	(-1.85)	(-1.73)	(-0.80)	(-1.14)		(-0.73)
ED 9-11	-.169	-.160	.007	.010	.094	.100	-.338	-.165
	(-4.44)	(-4.22)	(0.10)	(0.13	(0.87)	(0.91)	(-3.31)	(-3.50)
ED 12	---	---	---	---	---	---	---	---
	---	---	---	---	---	---	---	---
ED 13+	.107	.110	.191	.189	.178	.191	.040	.120
	(3.65)	(3.76)	(2.38)	(2.34)	(1.41)	(1.49)	(0.49)	(3.40)
SEXP	-.002	-.002	-.003	-.003	-.002	-.001	.003	-.003
	(-2.20)	(-2.08)	(-0.91)	(-0.87)	(-0.28)	(-0.25)	(1.00)	(-2.22)
EXP	.003	.003	.001	.000	-.003	-.003	.015	.003
	(2.60)	(2.31)	(0.23)	(0.17)	(-0.40)	(-0.35)	(2.61)	(1.87)
TEN	.001	.002	.004	.004	.007	.007	-.004	.001
	(1.34)	(1.48)	(1.59)	(1.62)	(1.12)	(1.05)	(-0.88)	(1.12)
TRCPVT	.075	.080	.068	.071	.071	.079	-.017	.081
	(2.40)	(2.61)	(0.77)	(0.79)	(0.56)	(0.61)	(-0.17)	(2.21)
TRCGVT	-.061)	-.066	.068	.072	.019	.023	-.175	-.024
	(-1.01)	(-1.10)	(0.60)	(0.63)	(0.13)	(0.16)	(-1.91)	(-0.28)
KWW	.002	.002	.009	.010	.007	.009	.004	.001
	(0.30)	(0.35)	(0.71)	(0.72)	(0.38)	(0.44)	(0.21)	(0.13)
LANG	---	-.233	---	-.009	---	.056	---	---
	---	(-4.35)	---	(-0.10)	---	(0.35)	---	---
SOUTH	-.063	-.066	-.160	-.157	-.106	-.085	-.044	-.063
	(-2.41)	(-2.53)	(-2.70)	(-2.56)	(-1.18)	(-0.91)	(-0.65)	(-1.96)
URBAN	.054	.043	-.040	-.041	-.150	-.165	.064	.058
	(1.83)	(1.48)	(-0.29)	(-0.30)	(-0.62)	(-0.67)	(0.64)	(1.70)
FOR_14	---	.135	---	.036	---	.087	---	---
	---	(1.40)	---	(0.40)	---	(0.56)	---	---
LOC_U	.000	-.002	-.018	-.018	-.020	-.020	.008	.001
	(0.08)	(-0.41)	(-1.45)	(-1.43)	(-1.33)	(-1.33)	(0.40)	(0.13)
MAR	-.028	-.026	.009	.009	-.041	-.034	.030	-.037
	(-1.15)	(-1.07)	(0.18)	(0.17)	(-0.51)	(-0.42)	(0.39)	(-1.26)
HISP	.017	.028	---	---	---	---	---	---
	(0.34)	(0.57)	---	---	---	---	---	---
MEX	---	---	.021	.022	---	---	---	---
	---	---	(0.39)	(0.40)	---	---	---	---
PUERTO	---	---	.045	.041	---	---	---	---
	---	---	(0.52)	(0.45)	---	---	---	---
BLACK	-.022	-.020	---	---	---	---	---	---
	(-0.54)	(-0.50)	---	---	---	---	---	---
R_A^2	.08	.10	.08	.07	.01	.03	.14	.08
F	6.81	7.24	1.91	1.67	0.95	0.86	3.16	5.21
Number	963	963	155	155	85	85	154	654
Mean of Dep. Var.	1.21	1.21	1.20	1.20	1.19	1.19	1.17	1.22
SD of Dep. Var.	.35	.35	.31	.31	.31	.31	.41	.34

Note: Universe is young women not in school, 16 to 22 years old, employed as wage or salary workers in civilian occupations in 1979. T-statistics are in parentheses.

[a]No observations.

(for men), the geographic variables (except LOC_U in the female equations), and marriage (for men)--support our hypotheses. The unexpected findings include the negative relationship between in-school work experience (SEXP) and wages, the lack of significance for the training variables (except private training for women), and statistical insignificance in the female cohorts for occupational information and marriage.

Hispanic sample. The only variables that are statistically significant in the positive direction for Hispanic men are post-school experience, private-sector and government-sector training, and being married (Table 4). Variables negatively related to hourly wages include the local area unemployment rate, residence in the South, and living outside the United States at age fourteen. In-school work experience, tenure on current job, occupational information, residence in an urban area, and presence of language difficulties are all statistically insignificant. In the Mexican-origin equation for young men, we find essentially the same results with only a few variations—training is insignificant, increased tenure is associated with lower wages, and SOUTH and FOR_14 are insignificant.

We find it surprising that the education variables do not attain statistical significance. Only Hispanic men who have completed less than nine years of schooling earn significantly less than high school graduates, and that is true only in Model 1. However, one reason for this result is the age range of the sample. Prior work has documented that the early labor market effects of education may be substantially lower than the measured effects of education in the longer run (see King, 1978). For example, individuals with greater amounts of formal schooling

may be more likely to become employed in occupations that involve relatively large amounts of on-the-job training (OJT). Since the payoff to OJT is not immediate (especially if the training is general), it will affect the slope of the age-earnings profile, but will not be observable at a single point in time. Thus, since we are dealing with a very young cohort at only a single point, we may be seriously understating the long-run labor market impact of education.[13]

Both post-school training variables are significant determinants of wages for the total sample of Hispanic men, but not for men of Mexican origin. Blacks, however, do have early labor market gains from private sector training. Finally, we note in passing that marriage is associated strongly with higher wages among all cohorts of men but particularly so among Hispanics.

We now turn our attention to the LNWAGE equations for young women (Table 5). We note that many variables are statistically significant in the "total" equations--the education set, EXP and TEN (but, again, in-school experience is associated with lower wages), TRCPVT, SOUTH, and URBAN. It is particularly noteworthy in the total runs that Hispanic women do not earn significantly less than the entire sample, after adjusting for differences in the independent variables. In fact, they earn slightly more per hour than others.

When we compare the wage equations for Hispanic and Mexican-origin women, we are able to notice differences between the members of these groups. We note that one or more years of college is a significant determinant of higher wages. However, few of the remaining variables attain statistical significance. For example, dropping out of high school (ED

9-11) was a significant determinant of lower wages only for blacks and whites (leaving school before the ninth grade had negative repercussions for the set of all Hispanics). Years of service with the current employer (TEN) did attain significance for all Hispanics, but not for blacks, whites, or Hispanics of Mexican origin. Total post-school experience (EXP) was only significant for black and white women. Residence in the South and high local area unemployment rates were significantly related to lower wages for Hispanic women. Further, LOC_U is only significant in the Hispanic equations, indicating the disproportionate burden Hispanic women bear when local demand conditions are inadequate.

The policy variables of occupational knowledge (KWW) and post-school training programs were not found to be statistically significant determinants of higher wages for Hispanics, although the coefficients in all cases did carry the expected signs. Difficulties with the English language and place of residence at age fourteen also failed to reach statistical significance.

Annual Wage and Salary Earnings (LNERN)

In this section we investigate the determinants of yearly earnings. Since yearly earnings is the product of hourly wages and yearly hours of work, any factor that affects either will be a determinant of earnings. Thus, this section draws on both labor supply aspects as well as the previous section on hourly wages.

Hours of work. Before proceeding with the LNERN regression equations, it is instructive to observe how the components of yearly wage

Table 6

Relationships of Hourly and Annual Earnings and Hours and Weeks Worked, by Cohort

	Young Men			Young Women		
	Hispanic	Black	White	Hispanic	Black	White
Mean Wage (dollars/hour)	$4.20	$ 4.08	$ 4.79	$3.52	$3.49	$3.58
Mean Hours Worked Per Week	41.28	38.18	41.75	36.95	37.00	36.57
Mean Weeks Worked Per Year	40.43	36.17	42.93	38.31	34.26	41.82
Mean Hours Worked Per Year	1,680	1,423	1,807	1,431	1,299	1,543
Mean Yearly Wage and Salary Income[a]	$7,054	$5,806	$8,656	$5,037	$4,534	$5,524

[a]Calculated from the product of wage (W) and Hours Worked Per Year (H). The difference between the reported value and the actual mean [i.e., $(1/n)\{W \cdot H\}$ is the covariance of W and H.

and salary earnings vary across the cohorts (Table 6). Here, as in the LNWAGE case, Hispanics fall between whites, who have the highest earnings, and blacks, who have the lowest. In addition, we note that Hispanics also fall between whites and blacks along the dimension of total yearly hours worked. However, the differences among the cohorts in terms of yearly hours is not uniform: Hispanic men and women work 93% as many hours per year as do their white counterparts, while black men work only 83% as many hours as do Hispanic men, and black women work 90% as many hours as Hispanic women. Thus, we find a larger percentage difference between the cohorts when we examine yearly earnings than is the case for hourly earnings.

Total sample. As in the LNWAGE results for the total sample, the education variables are strong and significant (Tables 7 and 8). Post-school experience is significant, but TEN reaches significance only for young women, and in-school work experience narrowly reaches significance in the equation for young men. Private sector training has a positive impact for women, but neither training variable is significant for men. The only remaining statistically significant variables in the female equations are LOC_U and MAR.

In the equations for young men, we find that KWW is a significant determinant of yearly income. In addition, men who are married are likely to have higher income levels. Men residing in the South or in high unemployment-rate areas earn significantly less than others. We again note that black men and women have significantly lower yearly earnings than the others in the sample—and that difference is of substantial magnitude. Among Hispanics, however, such is not the case. While

Table 7

LNERN Regression Results for Young Men

	Total		Hispanic		Mexican		Black	White
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2		
Constant	8.317	8.322	9.185	9.205	9.134	9.225	7.655	8.343
	(59.36)	(59.01)	(22.09)	(21.95)	(20.01)	(20.13)	(16.95)	(49.62)
ED 0-8	-.456	-.435	-.368	-.383	-.343	-.293	-.790	-.357
	(-4.51)	(-4.21)	(-2.36)	(-2.17)	(-1.81)	(-1.38)	(-3.00)	(-2.64)
ED 9-11	-.293	-.295	-.182	-.191	-.303	-.313	-.242	-.286
	(-4.69)	(-4.72)	(-1.28)	(-1.34)	(-1.66)	(-1.73)	(-1.56)	(-3.66)
ED 12	---	---	---	---	---	---	---	---
	---	---	---	---	---	---	---	---
ED13+	.127	.129	-.024	-.043	.189	.128	.168	.126
	(1.50)	(1.52)	(-0.10)	(-0.18)	(0.50)	(0.34)	(0.43)	(1.29)
SEXP	.003	.003	.018	.017	.019	.017	.027	.002
	(1.33)	(1.29)	(2.44)	(2.39)	(1.91)	(1.79)	(2.56)	(0.67)
EXP	.033	.033	.039	.039	.038	.039	.079	.028
	(12.08)	(12.11)	(6.59)	(6.52)	(5.63)	(5.74)	(6.95)	(8.83)
TEN	.000	.000	-.014	-.014	-.010	-.009	-.017	.001
	(0.06)	(0.03)	(-2.59)	(-2.51)	(-1.51)	(-1.33)	(1.70)	(0.45)
TRCPVT	.046	.045	.095	.100	.181	.210	.346	.006
	(0.60)	(0.60)	(0.44)	(0.46)	(0.52)	(0.61)	(1.43)	(0.06)
TRCGVT	-.065	-.061	-.062	-.071	-.303	-.305	.348	-.438
	(-0.40)	(-0.37)	(-0.21)	(-0.24)	(-0.90)	(-0.92)	(1.40)	(-1.65)
KWW	.028	.027	.032	.035	.024	.026	.043	.027
	(1.99)	(1.95)	(1.21)	(1.30)	(0.72)	(0.81)	(1.11)	(1.59)
LANG	---	.146	---	.204	---	.250	---	---
	---	(1.23)	---	(1.08)	---	(1.13)	---	---
SOUTH	-.091	-.101	-.216	-.250	-.185	-.286	-.073	-.107
	(-1.63)	(-1.78)	(-1.66)	(-1.78)	(-1.21)	(-1.73)	(-0.46)	(-1.55)
URBAN	.062	.064	.435	-.432	-.573	-.563	-.116	-.069
	(1.01)	(1.14)	(-1.60)	(-1.58)	(-1.81)	(-1.79)	(-0.57)	(-1.06)
FOR_14	---	-.354	---	-.225	---	-.418	---	---
	---	(-2.03)	---	(-1.19)	---	(-1.90)	---	---
LOC_U	-.028	-.028	-.076	-.081	-.105	-.117	-.059	-.022
	(-2.59)	(-2.62)	(-3.07)	(-3.22)	(-3.48)	(-3.84)	(-1.42)	(-1.72)
MAR	.181	.189	.242	.243	.348	.332	.344	.184
	(2.74)	(2.85)	(1.82)	(1.81)	(2.21)	(2.06)	(1.37)	(2.33)
HISP	-.116	-.067	---	---	---	---	---	---
	(-1.13)	(-0.62)	---	---	---	---	---	---
MEX	---	---	-.324	-.318	---	---	---	---
	---	---	(-2.42)	(-2.37)	---	---	---	---
PUERTO	---	---	-.337	-.358	---	---	---	---
	---	---	(-1.81)	(-1.91)	---	---	---	---
BLACK	-.368	-.376	---	---	---	---	---	---
	(-4.58)	(-4.67)	---	---	---	---	---	---
R_A^2	.32	.32	.35	.35	.40	.40	.41	.27
F	29.78	26.60	7.14	6.38	6.63	6.07	11.88	16.19
Number	927	927	174	174	113	113	207	546
Mean of Dep. Var.	8.79	8.79	8.63	8.63	8.57	8.57	8.26	8.87
SD of Dep. Var.	.86	.86	.82	.82	.85	.85	1.23	.77

Note: Universe is young men not in school, 16 to 22 years old, employed as wage or salary workers in civilian occupations in 1979. T-statistics are in parentheses.

Table 8

LNERN Regression Results for Young Women

	Total		Hispanic		Mexican		Black	White
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2		
Constant	8.159	8.159	7.159	7.121	7.977	7.971	6.956	8.311
	(49.62)	(48.82)	(12.41)	(12.10)	(9.81)	(9.66)	(15.08)	(43.48)
ED 0-8	-.428	-.437	-.190	-.248	-.072	-.209	a	-.541
	(-2.34)	(-2.34)	(-0.76)	(-0.86)	(-0.24)	(-0.49)		(-2.28)
ED 9-11	-.350	-.340	.090	.097	.441	.451	-.571	-.377
	(-3.78)	(-3.66)	(0.43)	(0.45)	(1.45)	(1.46)	(-2.00)	(-3.45)
ED 12	---	---	---	---	---	---	---	---
	---	---	---	---	---	---	---	---
ED 13+	.197	.197	.110	.120	-.169	-.153	.196	.237
	(2.78)	(2.77)	(0.45)	(0.49)	(-0.50)	(-0.44)	(0.93)	(2.89)
SEXP	.003	.003	.013	.012	.037	.037	.029	.000
	(0.98)	(1.05)	(1.18)	(1.14)	(2.50)	(2.47)	(3.49)	(0.06)
EXP	.026	.026	.038	.038	.075	.075	.082	.022
	(8.89)	(8.85)	(3.72)	(3.69)	(3.41)	(3.32)	(5.46)	(7.02)
TEN	.007	.007	.009	.009	-.012	-.012	-.012	.007
	(2.75)	(2.76)	(1.01)	(0.97)	(-0.66)	(-0.64)	(-0.91)	(2.40)
TRCPVT	.274	.279	.263	.265	.201	.218	.166	.274
	(3.72)	(3.78)	(0.93)	(0.93)	(0.53)	(0.56)	(0.65)	(3.31)
TRCGVT	.088	.086	-.673	-.672	-1.069	-1.062	-.159	.323
	(0.63)	(0.61)	(-1.80)	(-1.78)	(-2.70)	(-2.64)	(-0.70)	(1.67)
KWW	.000	.002	.058	.063	.052	.056	.004	-.010
	(0.00)	(0.15)	(1.47)	(1.54)	(0.96)	(0.99)	(0.10)	(-0.52)
LANG	---	-.170	---	.200	---	.227	---	---
	---	(-1.26)	---	(0.70)	---	(0.48)	---	---
SOUTH	.050	.051	-.114	-.105	-.399	-.383	.011	.060
	(0.80)	(0.81)	(-0.63)	(0.57)	(-1.63)	(-1.50)	(0.06)	(0.82)
URBAN	-.015	-.024	.445	.423	-.359	.381	.118	-.024
	(-0.22)	(-0.34)	(1.11)	(1.05)	(-0.55)	(-0.56)	(0.46)	(-0.31)
FOR_14	---	.283	---	-.105	---	-.034	---	---
	---	(1.26)	---	(0.38)	---	(-0.08)	---	---
LOC_U	-.038	-.040	-.055	-.055	-.068	-.072	.019	-.042
	(-2.90)	(-2.98)	(-1.50)	(-1.50)	(-1.63)	(-1.66)	(0.38)	(-2.75)
MAR	-.194	-.194	-.180	-.175	-.417	-.403	-.236	-.200
	(-3.38)	(-3.38)	(-1.08)	(-1.04)	(-1.86)	(-1.76)	(-1.17)	(-3.05)
HISP	-.002	-.017	---	---	---	---	---	---
	(-0.02)	(-0.15)	---	---	---	---	---	---
MEX	---	---	.080	.102	---	---	---	---
	---	---	(0.49)	(0.60)	---	---	---	---
PUERTO	---	---	.140	.190	---	---	---	---
	---	---	(0.54)	(0.70)	---	---	---	---
BLACK	-.278	-.275	---	---	---	---	---	---
	(-2.86)	(-2.83)	---	---	---	---	---	---
R_A^2	.24	.24	.28	.27	.33	.31	.36	.23
F	18.77	16.72	4.50	3.95	3.92	3.32	7.58	13.97
Number	851	851	139	139	77	77	138	574
Mean of Dep. Var.	8.37	8.37	8.23	8.23	8.19	8.19	8.07	8.41
SD of Dep. Var.	.86	.86	.99	.99	.99	.99	1.16	.80

Note: Universe is young women not in school, 16 to 22 years old, employed as wage or salary workers in civilian occupations in 1979. T-statistics are in parentheses.

[a]No observations.

Hispanics do earn less per year than the total sample, the difference is not statistically significant.

Hispanic sample. As in the case of the LNWAGE runs, the education variables are not all significant, but among men the relationship between education and yearly earnings is much stronger than that between education and hourly earnings. Both groups of male high school dropouts fare significantly worse than their counterparts who completed high school. (Among women, however, that relationship does not hold.) In fact, among all men (including the equations for blacks and whites) the high school graduates were significantly better off financially. The experience measures are also fairly consistent across cohorts. In-school experience (SEXP) is generally significant for men (except for white men) and, in the case of women, is significant for those of Mexican origin and for blacks. The measure of post-school experience (EXP) is uniformly significant across all equations for both sexes. On the other hand, TEN bears a negative relationship to LNERN for Hispanic and black men and for Mexican-origin and black women.

The training variables are not significant for either Hispanic men or for Hispanic women. Indeed, government-sponsored training is associated negatively with LNERN in the case of Hispanic males. Knowledge of the World of Work is generally significant for Hispanics in general, but not for those of Mexican origin. Language difficulties and foreign residence at age fourteen are not statistically significant (except the latter in the case of Mexican-origin men), but living in an urban area is negatively related to income for Hispanic men. Hispanic men who reside in the South earn less per year than other Hispanics, while only women of Mexican origin

show that relationship among the women in the sample. As expected, we generally find a significant negative relationship between local-area unemployment rates and earnings.

Among Hispanic men, we find that those of Mexican or Puerto Rican origin have significantly lower yearly earnings than do other Hispanics. For women, however, that relationship does not hold. Finally, we note that married men in all cohorts have significantly higher yearly income than nonmarried men. Among the set of married women, those of Mexican origin and whites earn significantly less per year than their nonmarried counterparts.

The Role of Education

As explained above, our specification distinguishes education levels in a breakdown of 0-8, 9-11, 12, and 13 or more years of education. With some exceptions, most researchers specify models with years of education (ED), expressed in continuous form.[14] In order to provide some comparability to other studies we estimate the models discussed above with ED as the independent variable. The results are shown in Table 9. As can be seen from the table, the estimates in most cases are significantly different from zero at the 10% level.

The desired comparability is limited for a variety of reasons. First, no two data sets and/or variable sets are constant across authors, given their different objectives. Second, our sample is men and women of ages 16 to 22 years, which is rather unusual in current Hispanic research. Thus, estimates from our sample of youth will differ from those of older (or even full-age) samples. Third, and most important, we have estimated results

Table 9

Rates of Return to Years of Education (percentages)[a]

Sample	Model	Men		Women	
		LNWAGE	LNERN	LNWAGE	LNERN
Total	1	4.3	11.1	6.5	13.2
	2	4.0	11.0	6.4	13.6
Hispanic	1	2.5	6.1	3.3	4.8
	2	1.7	6.6	3.2	5.0
Mexican	1	1.9	6.2	2.9	2.4[b]
	2	1.5[b]	5.9	3.1	2.3[b]
Black	1	7.0	19.8	9.6	20.1
White	1	3.8	10.0	7.1	15.8

[a]Given an earnings equation of the form $\ln Y_s = \ln Y_o + rs$, where Y_s = annual earnings of an individual with s years of schooling, the coefficient r may be interpreted as the rate of return to schooling under the following three assumptions: (1) the cost of a year of schooling = foregone earnings in that year (i.e., direct costs are exactly offset by in-school earnings); (2) r is constant over all individuals; and (3) r is constant over years of schooling (i.e., marginal r = average r) (see Becker and Chiswick, 1966; Leibowitz, 1976).

[b]Not statistically significant at the 10% level.

across all Spanish-origin groups under the generic term "Hispanic." Most other studies, where sample sizes permit, break out such groups as Mexican, Puerto Rican, Cuban, Central or Latin American, and other Hispanic. We are only able to do this for Mexican. Table 10 presents a comparison of a sampling of previous research.[15] As can be seen, our estimates fall close to those listed in all cases except among men in the LNWAGE estimation. In this case, our estimates lie considerably below those of both Reimers and Borjas. As we have stated before, since our sample is very young, the effect of schooling on wages has not yet been fully realized. Thus, our results probably do understate the rate of return to education.

Intercohort Earnings Gap

In this section we wish to investigate further the observed hourly and annual earnings differences among the cohorts. A simple summary of proportional wage and yearly earnings differences using unadjusted mean values of LNWAGE and LNERN yields the results in Table 11. We note that white men, on average, earn about 12% more per hour and 27% more per year than do Hispanic men. White women surpass Hispanic women in earnings by 1% per hour and 20% per year. Comparing earnings of Hispanics and blacks, we note that both male and female Hispanics earn about 4% more per hour than do blacks, and that the yearly differential increases to 45% and 17% for Hispanic men and women, respectively, over their black counterparts.[16]

In place of simple unadjusted mean earnings gaps, a more sophisticated analysis considers two additional factors: The earnings differences that would exist if, first, both cohorts under consideration had the same

Table 10

Comparison of Rate of Return Estimates for LNWAGE and LNERN Models (percentages)

Study	Men			Women		
	Hispanic	Mexican	White	Hispanic	Mexican	White
LNWAGE						
Myers and King	1.7	1.5	3.8	3.2	3.1	7.1
Reimers (1980)	4.6[a]	5.3	6.4	3.7	4.2	8.1
Borjas (1981)	3.2[a]	2.7	---	---	---	---
LNERN						
Myers and King	6.6	5.9	10.0	5.0	2.3	15.8
Borjas (1981)	5.5[a]	5.3	---	---	---	---
Carliner (1976)	5.9[a]	4.9	6.9	---	---	---
Tienda and Neidert (1981)	6.0-8.6[a]	6.2-7.7	---	---	---	---

[a]The overall Hispanic estimate is calculated from the results for particular Hispanic-origin groups. It is calculated as $\sum_{j=1}^{n} w_i e_i / \sum_{j=1}^{n} w_i$, where e_i is the appropriate estimate and w_i is the sample size of each of n Hispanic-origin groups. While there are some problems with this approach, it does allow for a convenient summary.

Table 11

Hourly and Annual Earnings Gaps among Hispanic, Black, and White Youth

	White/Hispanic		Hispanic/Black	
	Unadjusted[a]	Adjusted[b]	Unadjusted[a]	Adjusted[b]
LNWAGE				
Men	.116	.067	.041	.093
Women	.010	-.009	.041	.010
LNERN				
Men	.271	.136	.448	.650
Women	.197	.013	.174	-.069

[a]The unadjusted gap is calculated as $e^D - 1$, where $D = \bar{Y}_A - \bar{Y}_B$ and $\bar{Y}_i$ is the mean of the appropriate log earnings measure for group i. Column 1 has $D = \bar{Y}_W - \bar{Y}_H$ and column 2 has $D = \bar{Y}_H - \bar{Y}_B$.

[b]The adjusted gaps are $\bar{X}_H(b_W - b_H)$ and $\bar{X}_B(b_H - b_B)$ for columns 2 and 4 respectively.

observed mean characteristics, and second, if both cohorts faced identical structures. Thus, disparity in earnings may come from two sources—differences in distribution, and discrimination.[17]

In Table 11 we calculate an unadjusted gap as a function of $\bar{Y}_A - \bar{Y}_B$, where $\bar{Y}_i$ is the mean (in logs) of the appropriate earnings measure for group i. If X_i is a vector of mean characteristics of group i (i = H for Hispanics, B for blacks, and W for whites) and b_i is the corresponding vector of regression coefficients, then we can write (via the normal equations):

(1)
$$\bar{Y}_H = \bar{X}_H b_H$$
$$\bar{Y}_B = \bar{X}_B b_B$$
$$\bar{Y}_W = \bar{X}_W b_W.$$

Under the hypothesis that cohort A is being treated differently from cohort B, we would like to know how their earnings would change if they were treated the same as cohort B—that is, what they would earn if they (cohort A) faced B's wage structure. For example, let cohort A be Hispanics and cohort B be whites. If Hispanics faced the white wage structure they would earn

(2)
$$\hat{Y}_H = \bar{X}_H b_W,$$

and the difference in earnings between what they earn and what they could earn is given by

(3)
$$\hat{Y}_H - \bar{Y}_H = \bar{X}_H(b_W - b_H).$$

The difference between what whites actually earn and what Hispanics could earn is given by

(4)
$$\bar{Y}_W - \hat{Y}_H = (\bar{X}_W - \bar{X}_H)b_W.$$

The term in (3) reflects unequal rewards to like individuals (a measure of

discrimination) and the term in (4) reflects equal rewards as applied to unlike individuals (a measure of differences in distribution). Finally, the "gap" can be reported in dual fashion as:

$$(5) \qquad \bar{Y}_W - \bar{Y}_H = (\bar{Y}_W - \hat{Y}_H) + (\hat{Y}_H - \bar{Y}_H)$$
$$= (\bar{X}_W - \bar{X}_H)b_W + \bar{X}_H(b_W - b_H).$$

What we seek to explain is the white/Hispanic gap (as well as the Hispanic/black gap) after the effects of differences in distributional characteristics are removed. That which remains can be assumed to be an upper limit of the extent of discrimination in earnings. The "adjusted" earnings gaps are also presented in Table 11.

We note from Table 11 that Hispanic males would earn about 7% more per hour and 14% more per year if they faced the white male earnings structures. To the extent that we can argue that discrimination is the reason for differences in earnings structure, we can use our calculated 7% hourly wage differential as a measure of labor market discrimination against Hispanic men. It is less clear whether we could use the 14% yearly differential as a discrimination measure, since that magnitude is a function of labor supply as well as hourly wages. Thus, we would have to have more information regarding the reasons for labor supply differences in that case. When we investigate the adjusted female white/Hispanic earnings gaps, we see that they are virtually nonexistent. Our analysis therefore implies that Hispanic women face no more labor market discrimination than do white women.

We find that black men would be better off if they faced the Hispanic wage and earnings structures. The Hispanic/black adjusted LNWAGE differential is about 9%, and the yearly earnings difference is 65%. In

other words, if black men faced the Hispanic earnings structure (a function of hourly earnings and labor supply), their annual earnings would increase by 65%.[18] When we turn our attention to the young women, we again see little difference in the calculated wage gap—a 1% advantage for Hispanic women with respect to black women. The yearly earnings difference, on the other hand, is about 7% in favor of black women.[19]

SUMMARY AND CONCLUSIONS

Before adjusting for differences among the cohorts, we find Hispanics falling between whites (at the high end) and blacks (at the low end) in terms of hourly and yearly earnings. After adjusting for differences, we continue to find Hispanics falling between whites and blacks, but closer to the whites. When we look for differences between the cohorts, we find education looming large. Among employed male Hispanic youth, almost three-fifths are high school dropouts; among Hispanic women, over one-third failed to complete high school.

Turning to some generalizations regarding the determination of the financial success of Hispanics, we find that the higher dropout rates of Hispanics may be explained in part by the lower benefits of education for Hispanic youth vis-à-vis blacks and whites. (That is, Hispanic high school dropouts face lower market penalties than black and white dropouts, and Hispanic males who have attended college have lower returns than blacks or whites.) Reimers (1980) and Carliner (1976) also found that Hispanics have lower rates of return to education than whites. However, we do find that years of schooling play a fairly sizable role in Hispanic earnings, especially the yearly measure of earnings.

Our three measures of experience have mixed results for the Hispanic cohorts. While post-school experience proves to be an important determinant of earnings, months of service with the current employer has little effect. In-school work experience has positive effects in the yearly earnings equations, but shows little in the equation explaining hourly earnings. Our two measures of post-school training have mixed results. While the impact of training is generally small, it is a significant determinant of hourly earnings for men (but not for Mexican-origin men). Another factor—the extent of occupational knowledge possessed by the respondent—is not generally significant except in the analysis of yearly earnings.

The results of the geographic variables are generally in the expected direction. Those residing in the South or in high unemployment rate areas do worse than others, while those in urban areas do not differ significantly. Surprisingly, little evidence was found to show that Hispanics with language difficulties or who were residing outside the United States at age fourteen are any worse off than their counterparts. And, finally, we note that married men do have higher earnings (hourly and yearly) than unmarried Hispanic men, other things equal.

In the analysis, we find that Hispanic males would earn about 7% more per hour and 14% more per year if they faced the white male earnings structures. To the extent that we can argue that discrimination is the reason for differences in earnings structures, we can use the calculated 7% hourly wage differential as a measure of labor market discrimination against Hispanic males. When we investigate white/Hispanic earnings gaps among the women, we find that they are virtually nonexistent. Our analy-

sis therefore implies that Hispanic women face no more labor market discrimination than do white women.

This study represents an attempt to highlight the labor market position of Hispanic youth in a broad context. The size of the task we set out to accomplish required the sacrifice of more detailed investigation of many aspects. Nevertheless, some specific conclusions and recommendations are possible.

We have shown that considerable difference in educational attainment exists. The reasons for this are unclear. A lack of equal opportunity or access to schooling, inefficient or ineffective educational delivery systems to Hispanics, or lack of incentives to invest in human capital on the part of Hispanic youth would each contribute to the observed lower educational levels of Hispanics. Additionally, Hispanic immigrants are likely to have relatively fewer years of education than natives, which would exacerbate the educational differences between Hispanics and whites. In any event, the issue of the disparity in educational attainment among youth ought to occupy a high priority in future work.

Despite mixed results in our various measures of experience one should not downplay the important role of work experience to labor market success. The sometimes negative results of tenure may actually reflect a lack of job mobility due to a lack of opportunities or labor market information. That is, a certain amount of "job hopping" may have beneficial effects for young workers. Further, the results show that those minorities (Hispanic and black) who gain experience by working while enrolled in school are rewarded in terms of annual earnings, presumably through their increased labor supply. This result, combined with the

apparent need to increase levels of education of Hispanic youth, suggests considerable potential for cooperative (work combined with schooling) approaches to education, or at least indicates the value of working while in school.

NOTES

[1]The median age for whites is 31.3 years, the median age for both blacks and Hispanics is 23.2 years. Also, the under-15-years-of-age rate is highest for Hispanics (32%) and lowest for whites (21.3%). In addition, less than 5% of Hispanics in the United States are over 65 years of age, while over 12% of whites are (1980 Census as reported in Scientific American, November 1981, p. 61).

[2]This paper is one chapter of a larger study of the labor market outcomes of Hispanic youth (Myers et al., 1982).

[3]Use of hourly earnings as a measure is much "cleaner" econometrically, since it does not involve the labor supply decision of hours worked per year. That is, measures such as annual earnings are sensitive to differences in hours and weeks of work, which are themselves dependent upon hourly earnings. Nevertheless, an analysis of yearly earnings generates much interest and policy significance, since it is this magnitude that primarily determines living standards.

[4]See Borus et al. (1979) for a descriptive analysis of the NLS data.

[5]The measure of "Hispanic" used in this study comes from a two-part identification. First, the respondent is asked to self-identify with one of 15 ethnic origins, including Mexican-American, Chicano, Mexican, Mexicano/Cuban, Cubano/Puerto Rican, Puertoriqueno, Boricua/Latino, Other Latin American, Hispano, or Spanish descent. If the respondent chooses one of the above, then he or she is coded as "Hispanic." Second, if after this self-identification the respondent remains unclassified as Hispanic, but reports that Spanish was spoken in his or her household when the respondent "was a child," and the surname corresponds to a

Census-derived list of Spanish surnames, then the respondent is coded as "Hispanic." The remaining respondents are coded as blacks or "others." We have purged the "other" group of the non-Hispanic, nonblack, nonwhite respondents to retain only a non-Hispanic white group.

[6]We calculate an adjusted annual earnings measure by multiplying the respondent's usual hours of work per week by weeks worked in the past year by average hourly earnings. Since the past-year reference period varies among individuals (it is actually weeks worked from January 1, 1978, to the interview date), we adjusted all periods to a 52-week base. For example, if an individual worked 75% of all available weeks from 1/1/78, to, say, 4/14/79 (the date of the interview), we count that person as having worked 39 weeks (.75 x 52) in the past year.

[7]For a discussion of the KWW ability relationship, see Parnes and Kohen (1975), Griliches (1976), and Lazear (1977). Nevertheless, we are unable here to separate the effects of occupational information from those of ability.

[8]For the purposes of this report, residence outside the 50 states and the District of Columbia is considered to be outside the United States, even though areas such as Puerto Rico and Guam are U.S. commonwealths or territories.

[9]All models were run with B_FOR, but are not reported here. In those runs: (1) no coefficient except FOR_14 changed significantly, and (2) B_FOR was rarely significant. Due to the high degree of collinearity, we include only FOR_14 and the expected sign is negative.

[10]Sample sizes in the Mexican equations are already perilously low. The most serious problem with small sample sizes in models with a large

number of independent variables is that standard errors become large and statistical significance falls. The coefficient estimates remain unbiased under classical assumptions on the error term.

[11]It should be noted that the base from which we calculate these "dropout rates" is composed of nonenrolled individuals, 16 to 22 years of age. Since we are excluding here those who are enrolled in school, the dropout rate is considerably higher than those calculated on a full age sample.

[12]In this paper we are using $\alpha \leq .10$ as our measure of statistical significance. When we use one-tailed tests (the hypothesized direction of the variables are listed in Table 1), t-values of 1.28 or larger in the expected direction are considered statistically significant. For the two-tailed tests to be statistically significant, the absolute value for the t-statistic must be at least 1.64.

[13]See Becker (1975), Mincer (1974), or Griliches (1976). Examples of this phenomenon include apprentices in the building trades and graduate teaching assistants, both of whom are trading off current wages for current OJT and higher subsequent earning power.

[14]Neidert and Tienda (1981) examine five different models of the relationship between education and earnings for Hispanic males. They find that while the linear (or continous education model) "provides the best fit to the data,...the [other] models are superior for providing new insights..." (p. 164).

[15]The estimates presented were selected for their comparability to our estimates and do not necessarily reflect the authors' "best estimate." For example, Reimers (1980) offers estimates corrected for

selectivity bias, which we do not present. In every case, the estimate for "Hispanic" is a weighted average of separate estimates on various Hispanic-origin groups (e.g., Mexican, Puerto Rican, etc.).

[16]These high yearly differentials between Hispanics and blacks can be seen in Table 6 as most directly related to relatively low average annual hours worked.

[17]See Tienda (1981b) and Reimers (1980) for similar analyses. Whereas Tienda investigates gaps in annual earnings, Reimers investigates differences in log wages. Both have full-age samples, but Tienda analyzes only men.

[18]See note 16. Note also from Table 7 the considerably greater penalties to blacks than to Hispanics of dropping out of high school, especially for ED 0-8 (-.368 for Hispanics, -.790 for blacks).

[19]It must be borne in mind that this finding is not inconsistent with the observation that Hispanic women earn more per hour and work more annual hours than do their black counterparts. The earnings structure is the result of a complex of interactions, as noted above. One factor we note from comparing Hispanic and black female earnings regressions that at least partly explains the 7% finding is that, in our sample, 15% of Hispanic women completed less than 9 years of schooling, as compared to 0% for black women. Further, Hispanic women who completed only 0-8 years of schooling earned 19% less per year, ceteris paribus, than Hispanic women with a high school diploma.

REFERENCES

Antos, Joseph R. and Wesley S. Mellow. 1978. The youth labor market: A dynamic overview. Final Report to the U.S. Department of Labor, Bureau of Labor Statistics, Washington, D.C.

Becker, Gary S., ed. 1975. Human capital. 2nd ed. New York: Columbia University Press.

Becker, Gary S., and Barry R. Chiswick. 1966. Education and the distribution of earnings. American Economic Review, 56, 358-369.

Borjas, George J. 1981. Hispanic immigrants in the U.S. labor market: An empirical analysis. In Marta Tienda, ed., Hispanic origin workers in the U.S. labor market. Final Report to the U.S. Department of Labor. Madison: University of Wisconsin.

Borus, Michael E., Joan E. Crowley, Russell W. Rumberger, Richard Santos, and David Shapiro. 1980. Pathways to the future: A longitudinal study of young Americans. Preliminary report: Youth and the labor market - 1979. Columbus: Ohio State University, Center for Human Resource Research.

Briggs, V.M., Jr., W. Fogel, and F.H. Schmidt. 1977. The Chicano worker. Austin: University of Texas Press.

Carliner, Geoffrey. 1976. Returns to education for blacks, Anglos, and five Spanish groups. Journal of Human Resources, 11, 172-184.

Chiswick, Barry R. 1978. The effect of Americanization on the earnings of foreign-born men. Journal of Political Economy, 86, 897-922.

Fogel, W. 1966. The effect of low educational attainment on incomes: A comparative study of selected ethnic groups. Journal of Human Resources, 1, 22-40.

Freeman, Richard B. 1976. The over-educated American. New York: Academic Press.

Grasso, J.T., and Steven C. Myers. 1977. The labor market effects of investment in human capital. In A.I. Kohen, J.T. Grasso, S.C. Myers, and P.M. Shields, eds., Career thresholds. Vol. 6. Columbus: Ohio State University, Center for Human Resource Research.

Griliches, Zvi. 1976. Wages of very young men. Journal of Political Economy, 84, S69-85.

Griliches, Zvi. 1980. Schooling interruption, work while in school, and the returns from schooling. Scandinavian Journal of Economics, 82. 291-303.

King, Randall H. 1978. The labor market consequences of dropping out of high school. Ph.D. diss., The Ohio State University, Center for Human Resource Research.

King, Randall H. 1980. Some further evidence on the rate of return to schooling and the business cycle. Journal of Human Resources, 15, 264-272.

Lazear, E. 1977. Education: Consumption or production? Journal of Political Economy, 85, 569-597.

Leibowitz, Arleen. 1976. Years and intensity of schooling investment. American Economic Review, 66, 321-334.

Marhsall, F.R., A.G. King, and V.M. Briggs, eds. 1980. Labor economics: Wages, employment, and trade unionism. 4th ed. Homewood, Ill: Richard D. Irwin.

Mincer, Jacob. 1974. Schooling, experience and earnings. New York: Columbia University Press, for the National Bureau of Economic Research.

Myers, Steven C. 1980. Working in college: Risk or return? Ph.D diss., Ohio State University, Center for Human Resource Research.

Myers, Steven C., Dennis M. Byrne, Randall H. King, and Richard W. Stratton. 1982. Employment outcomes of Hispanic youth: An analysis of labor market behavior. Final Report to the U.S. Department of Labor. Akron: The University of Akron, March.

Neidert, Lisa J., and Marta Tienda. 1981. Converting education into earnings: The patterns among Hispanic origin men. In Marta Tienda, ed., Hispanic origin workers in the U.S. labor market. Final Report to the Department of Labor. Madison: University of Wisconsin, October.

Newman, M. 1978. A profile of Hispanics in the U.S. work force. Monthly Labor Review, 101 (December), 3-14.

Parnes, Herbert S., and Andrew I. Kohen. 1975. Occupational information and labor market status: The case of young men. Journal of Human Resources, 10, 44-55.

Polachek, Solomon W. 1981. Occupational self-selection: A human capital approach to sex differences in occupational structure. Review of Economics and Statistics, 60-69.

Reimers, Cordelia. 1980. Sources of the wage gap between Hispanic and other white Americans. Working Paper, no. 139, Woodrow Wilson School, Princeton University.

Tienda, Marta, ed. 1981a. Hispanic origin workers in the U.S. labor market. Final Report to the U.S. Department of Labor. Madison: University of Wisconsin, October.

Tienda, Marta. 1981b. Nationality and income attainment among native and immigrant Hispanics in the U.S. In Marta Tienda, ed., Hispanic origin workers in the U.S. Labor Market. Final Report to the U.S. Department of Labor. Madison: University of Wisconsin, October.

Tienda, Marta, and Lisa J. Neidert. 1981. Market structure and earnings determination of native and immigrant Hispanics in the U.S. In Marta Tienda, ed., Hispanic origin workers in the U.S. labor market. Final Report to the U.S. Department of Labor. Madison: University of Wisconsin, October.