Hispanic and Non-Hispanic Wage Differentials: Implications for United States Construction Industry

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Abstract: The shortage of skilled construction workers is considered to be one of the greatest challenges facing the United States construction industry. To meet workforce demands, the industry is increasingly relying on Hispanic construction workers. The result has been a strong increase in Hispanic construction workers, especially in the Western and Southern United States where Hispanics already comprise 31 and 24% of the total construction workforce, respectively. Using data from the U.S. Bureau of Labor Statistic's Current Population Survey (CPS), this study examines relative differences in hourly wages between Hispanic and non-Hispanic construction workers. The finding suggests that Hispanic workers earn less than their non-Hispanic counterparts controlling for experience, occupation, schooling, and geographical location. The implication of the increasing size of the Hispanic construction workforce with respect to industry real wages and education needs is discussed, along with the workforce's ability to adopt future technologies and workforce strategies.

DOI: 10.1061/(ASCE)0733-9364(2004)130:4(552)

CE Database subject headings: Construction industry; United States; Employees; Minority groups; Personnel management.

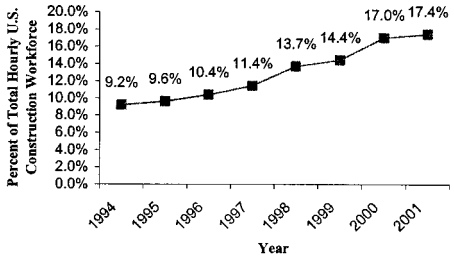
Introduction

The shortage of skilled workers is considered to be one of the greatest challenges facing the United States construction industry. Not since the early 1970s has the United States construction industry experienced such low unemployment rates [Bureau of Labor Statistics (BLS) 2001]. Advances in construction equipment and material technologies, modularized components, and estimating and scheduling strategies have offset the shortage of skilled construction labor. However, there is a perception among industry leaders that the skilled worker shortage is getting worse. A survey of facility owners showed that 78% thought the skilled worker shortage had increased during the past 3 years (Rosenbaum 2001). Construction industry leaders feel the key to meeting this workforce problem will be to increase the size of the Hispanic workforce (Dan Bennet, President of the National Center for Construction Education and Research, personal communication, August 9, 2001). While most construction workforce populations are shrinking, the Hispanic workforce is not.

Since 1994, the number of Hispanic hourly construction workers in the United States almost doubled from 9.2 to 17.4% of the total hourly (paid) construction workforce (see Fig. 1). Although there are significant numbers of Hispanic construction workers throughout the United States the largest concentrations exist in the Western and Southern United States (see Fig. 2). From 1994 to 2001, the size of the Hispanic hourly construction workforce in the Southern United States increased from 11.3 to 24.9% of the total hourly construction workforce. Meanwhile, the size of the Hispanic workforce in the Western United States increased from 18.1 to 26.5%.

While Hispanics are currently a minority in the overall United States construction workforce, Hispanics are the majority in some states' construction workforce, and they may soon be the majority in other states' construction workforce. According to 2000 current population survey (CPS) data, Hispanics are the majority in the overall construction workforce in New Mexico by making up 54.2% of the state's construction workforce. Other states, such as Arizona and Nevada, are not far behind where Hispanics are 43.2 and 39.7% of the respective states' construction workforce.

There are larger concentrations of Hispanics in some construction occupations than others. The CPS tracks Hispanic construction workers' occupations as classified by the 1980 Standard Occupational Classification System. Based on 2000 CPS data, the top construction occupations for Hispanic hourly workers are shown in Fig. 3. The most common occupation was Construction Laborer, which comprised 22.9% of the total Hispanic hourly



Data Source: U.S. Bureau of Labor Statistics and Census Bureau's Current Population Survey
Note: 2001 Data includes up to September Release

Fig. 1. Percentage of Hispanic construction workers by percentage of total hourly (paid) construction workers in United States 1994–2001

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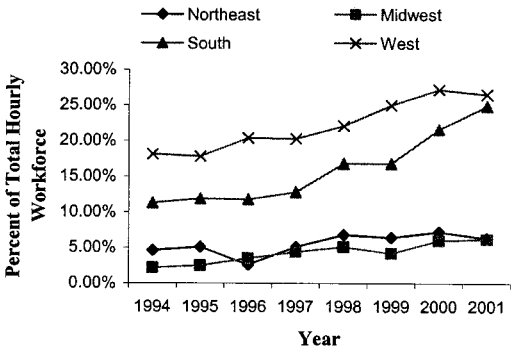
Note. Discussion open until January 1, 2005. Separate discussions must be submitted for individual papers. To extend the closing date by one month, a written request must be filed with the ASCE Managing Editor. The manuscript for this paper was submitted for review and possible publication on August 16, 2002; approved on May 14, 2003. This paper is part of the ***Journal of Construction Engineering and Management***, Vol. 130, No. 4, August 1, 2004. ©ASCE, ISSN 0733-9364/2004/4-552–559/$18.00.



Note: Northeast region includes CT, ME, MA, NH, RI, VT, NJ, NY, and PA.
Midwest region includes: IL, IN, MI, OH, WI, ND, SD, IA, KS, MN, MO, and NE
West region includes: AZ, CO, ID, MT, NV, UT, WY, NM, AK, CA, HI, OR, and WA.
South region includes: AL, KY, MS, TN, AR, LA, OK, TX, DE, DC, FL, GA, MD, NC, SC, VA, and WV.
Data Source: U.S. Bureau of Labor Statistics and Census Bureau's Current Population Survey. Note: 2001 Data includes up to September Release

Fig. 2. Percentage of Hispanics in United States construction workforce by geographic region, 1994–2001

workforce in construction. Carpenter was the second most popular occupation at 14.8%, and Painter was third at 8.1%.

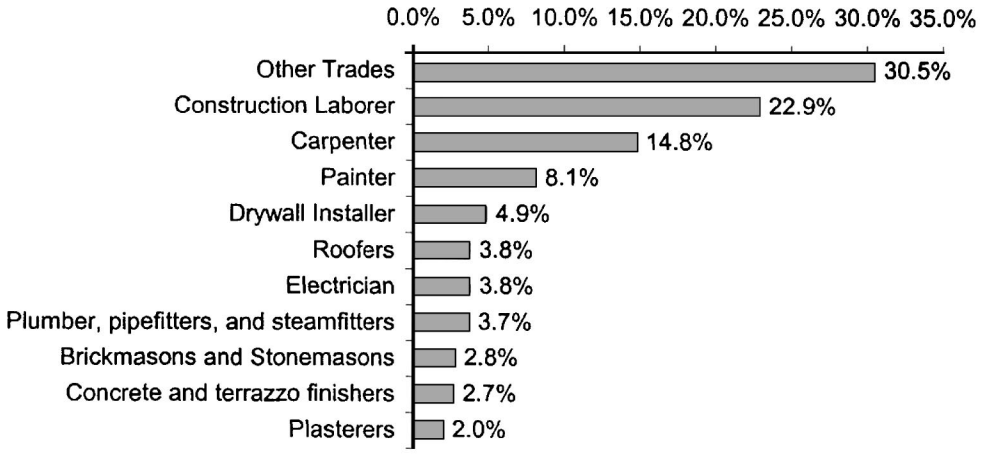
As shown, Hispanics are a significant segment in the United States Construction workforce. In the future, the size of the Hispanic workforce will need to increase even more if construction is to meet its workforce demands. Unfortunately, there is evidence suggesting that Hispanics earn significantly lower wages than their non-Hispanic counterparts, which may make a career in construction unattractive to Hispanics. An explanation frequently offered for this disparity is that Hispanics are, on average, less skilled, non-English speaking, and work in low paying construction occupations. Indeed, as reported above the most common construction occupation for Hispanics is Construction Laborer, which is an entry level occupation in construction. To better understand this issue, this paper examines the wage differentials between Hispanic and non-Hispanic hourly paid construction workers while controlling for occupation, work experience, and several other demographic variables. Furthermore, the paper also discusses the implications of a growing Hispanic population for the United States construction industry.

Methodology

Data Source

Using data from the 1998 to 2001 U.S. BLS CPS, the relative differences in hourly wages between Hispanic and non-Hispanic construction workers are examined. The CPS is a monthly survey of approximately 50,000 households conducted by the U.S. Census Bureau for the U.S. Department of Labor. With the survey being conducted for more than 50 years, CPS data provides information on economic indicators, and these indicators inform U.S. governmental policy. Data from the CPS is available to the public via their website (CPS 2001).

Each month, the CPS randomly selects 59,000 housing units (e.g., single family homes, townhouses, condominiums, apartment units, and mobile homes) for the sample, and approximately 50,000 are occupied and eligible for the survey. The other units are found ineligible, because they have been destroyed, vacant, converted to nonresidential use, or contain persons whose usual place of residence is elsewhere. Respondents are asked questions



Data Source: U.S. Bureau of Labor Statistics and Census Bureau's Current Population Survey (2000 Data)

Fig. 3. Percentage of Hispanics in United States construction workforce by occupation

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about the employment information and demographic characteristics of each member of the household over 14 years of age.

A number of criteria were used to select cases (each case representing an individual respondent) from the 1998 to September 2001 CPS data for this study. First, only individuals listing their primary industry of employment as construction were selected. This resulted in an initial sample of 192,404 cases. Next, each case had to meet the following series of additional selection criteria:

- Full-time hourly workers;
- Male construction workers; and
- Hourly wage greater than or equal to the United States minimum wage of $5.15/h.

Due to significant wage differences between union and nonunion workers and the larger sample size of nonunion workers, only nonunion workers were selected for the study. Using these criteria, 15,917 cases were selected. Sample sizes very for each analysis because of additional selection criteria for occupation and geographic location.

Experience Estimation

Information from the CPS is used to create more than 350 variables. The CPS, however, does not ask respondents about their work experience, an important consideration in a study on wage differentials. One method for estimating work experience, used by the BLS, is to use CPS data to calculate potential experience using the following equation (the units of potential experience are given in years):

$$\text{Potential experience (pot. exp.)} = \text{age} - 6 - \text{years of schooling} \quad (1)$$

In an effort to create a more accurate estimate of work experience, the U.S. Bureau of the Census and the Social Security Administration (SSA) created a 1973 exact match file linking CPS respondents with their SSA earnings, SSA benefits, and Internal Revenue Service (IRS) records (U.S. Department of Labor 1993). The SSA and IRS have quarterly statistics on the individuals' work histories. The matched files helped to create an equation to estimate actual SSA work experience from the CPS. The result of this effort was a series of equations that estimate work experience based on available data from the CPS. Two sets of estimation equations for work experience were created; one set for men and another for women. Women's work experience were found to be substantially influenced by being married and having children. To avoid these influences, this study focuses on men. The BLS experience equation used in this research is shown in

$$\begin{aligned}\text{BLS estimated experience} &= 2.12 + 3.91*\text{potential experience} \\ &\quad - 0.21*\text{potential experience squared} \\ &\quad - 0.47*\text{previous experience} \\ &\quad - 0.31*(\text{potential experience}*\text{nonprofit industries}) \quad (2)\end{aligned}$$

The units of BLS estimated experience equation is in quarters of a year. Potential experience is defined in Eq. (1). Previous experience is potential experience prior to 1937. Nonprofit Industries is a dummy variable for employment in a service industry with a high proportion of nonprofit workers. Due to the study's time frame and focus on construction, the variables Previous Experience and Nonprofit Industries had zero values; therefore Eq. (2) was reduced to the following equation:

$$\begin{aligned}\text{BLS estimated experience} &= 2.12 + 3.90*\text{potential experience} \\ &\quad - 0.21*\text{potential experience squared} \quad (3)\end{aligned}$$

There are some limitations to the BLS experience [Eqs. (2) and (3)]. First, the equations were developed using work patterns observed in the United States between 1937 and 1973. Fortunately for the construction industry, this is less of a limitation, since it is a male-dominated industry, and work patterns for men have changed less for men than for women (Rosenblum 2001). In addition, there has been a trend toward earlier retirement ages for men, which is not reflected in the BLS equations. Second, the BLS Eq. (3) measures work experience in quarters of a year. To be included in the SSA match file, a worker must have received a minimum of $200 in wages for a quarter. So, in construction, where work can be sporadic, workers working for a fraction of a quarter who earn $200 would get the same credit as workers working for the full quarter. Furthermore, self-employed and temporary day laborers, who are supposed to self-report their wages to social security, may not. These workers are not included in the BLS equations (Rosenblum 2001).

Analysis

This analysis examines the wage differentials between Hispanic and non-Hispanic hourly paid construction workers controlling for a number of factors, including occupation, experience, years of schooling, geographic location, and the ability to communicate in English. The analysis begins with a comparison of the descriptive statistics for all Hispanic and non-Hispanic construction workers. This is followed by a second comparison of the descriptive statistics for a subset of Hispanic and non-Hispanic construction workers: laborers and carpenters. Finally, regression is used to examine the wage differentials between Hispanic and non-Hispanic construction laborers and carpenters in the Southern and Western United States.

Descriptive Statistics

Based on the selection criteria of cases, a number of general observations can be made regarding the differences between the Hispanic and non-Hispanic construction workers in the entire sample. Table 1 shows the age, years of schooling, hourly wages, and hours worked per week for Hispanic and non-Hispanic construction workers in the United States.

There are significant differences in the mean age, years of schooling, and hourly wage for Hispanic and non-Hispanic construction workers, while only a nonsubstantial difference exists for the hours worked per week. The average Hispanic construction worker is 32.95 years old, while the average non-Hispanic construction worker is 36.04 years old. An F value of 176.96 shows this difference is statistically significant. Hispanic construction workers have, on average, 9.57 years of schooling compared to Non-Hispanic construction workers' 12.07 years of schooling. The difference in mean years of schooling is also statistically significant with an F value of 3,639.29. Hispanic workers worked a mean 39.83 h/week compared to 41.04 h/week for

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Table 1. Descriptive Statistics for All Hispanic and Non-Hispanic Construction Workers in Entire Sample

Category	Hispanic			Non-Hispanic			Degree of freedom	F value	Significance
	Mean	Standard deviation	N	Mean	Standard deviation	N			
Age	32.95	10.31	2,980	36.04	11.67	12,937	15,916	176.96	0.00
Years of schooling	9.57	3.24	2,980	12.07	1.64	12,937	15,916	3636.29	0.00
Hours per week	39.83	7.79	2,980	41.04	9.62	12,937	15,916	39.71	0.00
Hourly wage	$10.91	$4.52	2,980	$13.36	$5.56	12,937	15,916	502.31	0.00

Note: Data source: Current Population Survey, 1998–2001.

non-Hispanic workers. This difference is substantially minimal, although the F value of 39.71 indicates it has statistical significance. Finally, there is a statistically significant difference in the mean hourly wages of Hispanic and non-Hispanic construction workers (F value equals 502.31). Hispanic workers have a mean hourly wage of $10.91, and non-Hispanic workers have a mean hourly wage of $13.36.

Next, descriptive statistics are examined for Hispanic and non-Hispanic construction workers in occupations of laborer and carpenter, the top two construction occupations for Hispanics.

Tables 2 and 3 report the differences in the mean age, years of schooling, hours worked per week, and hourly wages for Hispanic and non-Hispanic construction laborers and carpenters. The mean age of non-Hispanic construction laborers and carpenters is higher than the mean age of their Hispanic counterparts. Hispanic construction carpenters worked more hours per week than non-Hispanic carpenters, but this difference lacked statistical significance (F value equals 2.52, Table 3). The mean years of schooling is also higher for non-Hispanic construction laborers and carpenters than Hispanics. Finally, the mean hourly wage for both occupations is greater for non-Hispanics than for Hispanics. The mean hourly wage for non-Hispanic construction laborers is $1.06 higher, and the mean hourly wage for non-Hispanic carpenters is $2.55 higher.

Regression

To control for the effect of work experience and years of schooling, multiple regression is used. The dependent variable in all of the below regressions is hourly wage. In each equation, hourly wage is regressed against work experience [measured by Eqs. (1) and (3), Pot. exp. and BLS exp., respectively], years of schooling (Yrs. school), and race (Hispanic, coded 1 if an individual is Hispanic and 0 if not). Two models are estimated: one for carpenters and one for construction laborers. To control for wage differentials due to geographic reasons, models are run separately for each occupation by the two most populated regions for Hispanics: Southern and Western United States. The first series of regressions for carpenters are shown in Table 4.

As expected, hourly wages increase with an increase in work experience and years of schooling for carpenters in the Western and Southern United States. The relationship between work experience and hourly wage was found to be best fitted using a quadratic relationship. The Potential experience estimations and BLS experience estimations made little difference in the goodness of fit (R^2) and statistical strength (F value) of the model. While controlling for the effect of work experience and years of schooling, the hourly wage is higher for non-Hispanic carpenters than Hispanic carpenters in the Western and Southern United States. For example, in Eq. (A), Hispanic carpenters in the Western United States earn, on average, $1.80 less per hour than non-Hispanic carpenters (controlling for the effects of work experience and years of schooling). A similar wage differential exists between Hispanic and non-Hispanic carpenters in the Southern U.S. where Hispanic carpenters earn, on average, $1.48 less per hour than non-Hispanic carpenters [see Eq. (C)]. Similar wage differentials are shown in Eqs. (B) and (D).

The effects of work experience on hourly wage for Western carpenters is shown in Fig. 4, which also shows the wage differential for Hispanic and non-Hispanic male carpenters in the Western United States. Fig. 4 also shows one additional problem that compounds the wage differential between Hispanic and non-Hispanic workers: hourly wages for non-Hispanic workers increased at a faster rate than the hourly wages for Hispanic workers (see dashed and dotted lines in Fig. 4).

Similar relationships are found for construction laborers (Table 5). Hourly wages increase with work experience and years of schooling although at a slower rate compared to carpenters [see Eqs. (E), (F), (G), and (H)]. The potential experience estimation and BLS experience estimation again made little difference in the goodness of fit (R^2) and statistical strength of the model (F value). Finally, controlling for the effect of work experience and years of schooling, Hispanic construction laborers earn a lower hourly wage than their non-Hispanic counterparts in the Western and Southern United States as measured by Hispanic; although the quantity of the wage differential for laborers is smaller than the wage differential for carpenters. For example, in Eq. (E), Hispanic construction laborers in the Western United States earn on average $0.93 less per hour than non-Hispanic construction labor-

Table 2. Descriptive Statistics for Hispanic and Non-Hispanic Construction Laborers

Category	Hispanic			Non-Hispanic			Degree of freedom	F value	Significance
	Mean	Standard deviation	N	Mean	Standard deviation	N			
Age	32.42	10.54	652	33.55	11.79	1,692	2,343	4.126	0.04
Years of schooling	8.76	3.44	652	11.79	1.60	1,692	2,343	838.12	0.00
Hours per week	38.94	7.39	652	39.95	9.64	1,692	2,343	5.75	0.02
Hourly wage	$9.83	$3.65	652	$10.86	$4.31	1,692	2,343	27.20	0.00

Note: Data source: Current Population Survey, 1998–2001.

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Table 3. Descriptive Statistics for Hispanic and Non-Hispanic Carpenters

Category	Hispanic			Non-Hispanic			Degree of freedom	F value	Significance
	Mean	Standard deviation	N	Mean	Standard deviation	N			
Age	32.92	10.50	462	34.54	10.80	2,119	2,580	8.636	0.03
Years of schooling	9.42	3.34	462	12.04	1.53	2,119	2,580	666.23	0.00
Hours per week	40.08	7.29	462	39.38	8.56	2,119	2,580	2.52	0.11
Hourly wage	$10.86	$4.39	462	$13.41	$5.47	2,119	2,580	87.85	0.00

Note: Data source: Current Population Survey, 1998–2001.

ers (controlling for the effects of work experience and years of schooling). The wage differential between Hispanic and non-Hispanic laborers in the Southern United States was smaller with Hispanic construction laborers earning $0.51 less per hour than non-Hispanic construction laborers [see Eq. (*G*)]. Similar wage differentials are shown in Eqs. (*F*) and (*H*).

The effects of work experience on hourly wage for Western laborers is shown in Fig. 5. As was the case with Western Carpenters, Fig. 5 shows not only the wage differential for Hispanic and non-Hispanic male carpenters in the Western United States, but it also shows that hourly wages for non-Hispanic laborers increased at a faster rate than the hourly wages for Hispanic workers (see dashed and dotted lines in Fig. 5).

In general, the regression equations for construction laborers [Table 5, Eqs. (*E*)–(*H*)] explained little of the variability of hourly wage among the study's sample as measured by the adjusted coefficient of determination (Adj. R^2). The low Adj. R^2 can be partially explained by the fact that there are many other variables that influence an individual's hourly wage not included in the models such as quality of work, skill level, technology use, union status, and availability of local labor. The lack of variability explained might also be attributed to the experience equations used to estimate worker experience, which are subject to the limitations previously discussed. Despite the limitations of these regression models, the analysis clearly shows that a wage differential exists between Hispanic and non-Hispanic construction laborers.

Effect of Englishing Speaking Ability

The perception may be that Hispanics earn a lower wage because of a lack of ability to communicate in English. The CPS asks respondents if they only communicate in Spanish. Among all Hispanic carpenters and construction laborers in the analyses, 33.7% of respondents indicated that they could only communicate in Spanish. To measure this effect, the variable Spanish only, which was coded 1 if the respondant spoke only Spanish and 0 otherwise, was added to the model (Table 6).

The effect of speaking only Spanish, although negative, is not statistically significant for three of the four models [see Eqs. (J), (K), and (L), Table 6]. The exception is carpenters in the Western United States. The effect of not being able to speak English decreases hourly wage by $1.47 for Hispanic carpenters in the Western United States [see Eq. (I), Table 6]. As for Carpenters in the Southern United States and Laborers in the Western and Southern United States, the analyses indicates there is no statistically significant decline in the hourly wages of Hispanics who speak only Spanish (at least for this sample of hispanic construction workers).

Implications for Construction

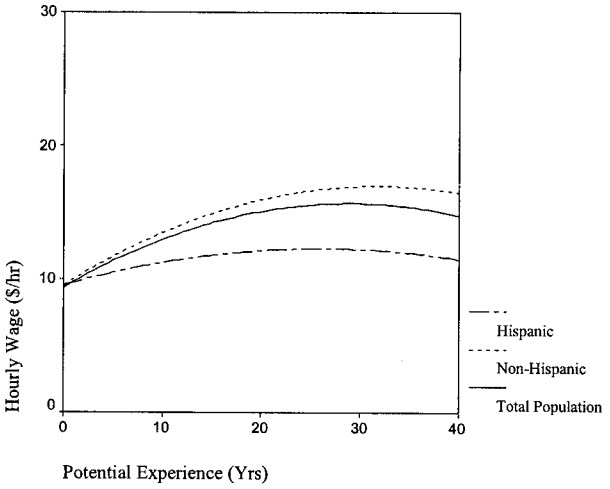
With a growing number of Hispanics in the United States construction workforce, there are several related issues that influence

Table 4. Regression of Work Experience, Years of Schooling, and Hispanic Race on Hourly Wages of Carpenters

			Carpenters in Western United States $N=759$ Regression coefficients						
Equation	Dep. variable	Constant	Potential experience	Potential experience^2	Years school	Hispanic	F	R^2	Adj. R^2
(*A*)	Hourly wage	4.86(4.29)[a]	0.43(8.50)[a]	−0.07(−5.48)[a]	0.41(4.95)[a]	−1.80(−4.07)[a]	50.99	0.22	0.21
			Regression coefficients						
Equation	Dep. variable	Constant	BLS experience	BLS estimated experience^2	Years school	Hispanic	F	R^2	Adj. R^2
(*B*)	Hourly wage	4.24(3.65)[a]	0.13(7.36)[a]	−0.01(−4.49)[a]	0.42(5.06)[a]	−1.82(−4.11)[a]	50.74	0.21	0.21
			Carpenters in Southern United States $N=835$ Regression coefficients						
Equation	Dep. variable	Constant	Potential experience	Potential experience^2	Years school	Hispanic	F	R^2	Adj. R^2
(*C*)	Hourly wage	4.71(6.02)[a]	0.26(7.25)[a]	−0.04(−4.47)[a]	0.39(6.82)[a]	−1.48(−4.50)[a]	53.73	0.21	0.20
			Regression coefficients						
Equation	Dep. variable	Constant	BLS experience	BLS estimated experience^2	Years school	Hispanic	F	R^2	Adj. R^2
(*D*)	Hourly wage	4.20(5.18)[a]	0.09(6.44)[a]	−0.004(−3.84)[a]	0.40(6.87)[a]	−1.50(−4.56)[a]	54.48	0.21	0.21

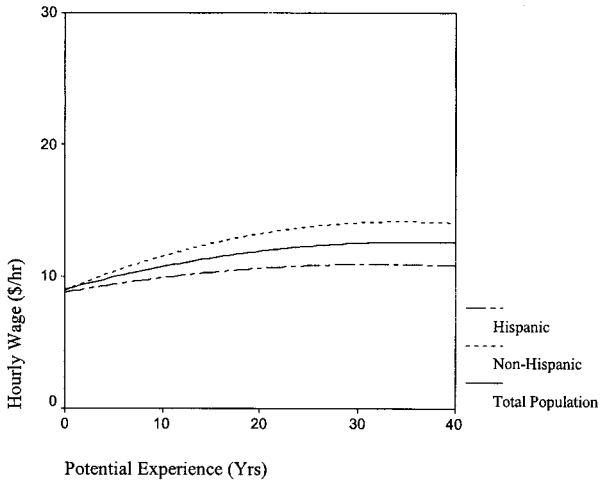
Note: Dep.=dependent; t values shown in parentheses.

[a]$p<0.05$; Data source: Current Population Survey, 1998–2001.



Data Source: U.S. Bureau of Labor Statistics and U.S.Census Bureau's Current Population Survey data files, 1998-2001)

Fig. 4. Potential worker experience versus hourly wage for male Hispanic and non-Hispanic carpenters in Western United States



Data Source: U.S. Bureau of Labor Statistics and U.S.Census Bureau's Current Population Survey data files, 1998-2001)

Fig. 5. Potential worker experience versus hourly wage for male Hispanic and non-Hispanic laborers in Western United States

real wages, educational and training needs, and new technology adoption in construction. If the size of the Hispanic construction workforce continues to increase and continues to be paid less than their non-Hispanic counterparts, this disparity may have an adverse effect on the overall construction real wages. Although construction real wages began to surpass inflation in the late 1990s, there has been a long-term decline in construction real wages over the past couple of decades (Allmon et al. 2000; and Oppedahl 2000). A continuation in the real wage decline due to race may have a negative impact on the recruitment and retention of Hispanic and other minority construction workers.

The analyses also show that Hispanic construction workers, on average, have fewer years of schooling. This reveals a need to add training and education programs for Hispanic construction workers. The construction industry needs to develop safety and skills training programs for a growing Hispanic community, and these programs may need to be offered in Spanish because many Hispanic craft workers speak little or no English. This not only will improve safety but productivity in construction as well.

New technologies such as field mobile computing devices and workforce strategies require more skilled workers. One example of a proposed workforce strategy is a ''two-tier work force strategy,'' currently being developed at the Center for Construction Industry Studies at the Univ. of Texas at Austin (Borcherding et al. 2001). This strategy proposes having a very skilled and highly flexible workforce to meet future labor demands. Hispanic workers will play an important role in the implementation of these types of advanced technologies and workforce strategies.

Table 5. Regression of Work Experience, Years of Schooling, and Hispanic Race on Hourly Wages of Construction Laborers

				Construction laborers in Western United States $N=695$ Regression coefficients					
Equation	Dep. variable	Constant	Potential experience	Potential experience^2	Years schooling	Hispanic	F	R^2	Adj. R^2
(E)	Wage (h)	4.83(5.18)[a]	0.26(6.77)[a]	−0.03(−3.97)[a]	0.37(5.39)[a]	−0.93(2.43)[a]	31.35	0.15	0.15

				Regression coefficients					
Equation	Dep. variable	Constant	BLS experience	BLS estimated experience^2	Years schooling	Hispanic	F	R^2	Adj. R^2
(F)	Hourly wage	4.52(4.78)[a]	0.08(5.90)[a]	−0.003(−3.22)[a]	0.36(5.34)[a]	−0.95(2.49)[a]	31.70	0.16	0.15

				Construction laborers in Southern United States $N=836$ Regression coefficients					
Equation	Dep. variable	Constant	Potential experience	Potential experience^2	Years schooling	Hispanic	F	R^2	Adj. R^2
(G)	Hourly wage	4.77(6.92)[a]	0.21(6.69)[a]	−0.003(−4.30)[a]	0.28(5.43)[a]	−0.51(−1.96)[a]	29.87	0.13	0.12

				Regression coefficients					
Equation	Dep. variable	Constant	BLS experience	BLS estimated experience^2	Years schooling	Hispanic	F	R^2	Adj. R^2
(H)	Hourly wage	4.48(6.37)[a]	0.07(5.96)[a]	−0.003(−3.68)[a]	0.28(5.41)[a]	−0.54(−1.95)[a]	30.24	0.13	0.12

Note: Dep.=dependent; t values shown in parentheses.

[a]$p<0.05$; Data source: Current Population Survey, 1998–2001.

Table 6. Regression of Work Experience, Years of Schooling, Hispanic Race, and Spanish Speaking Only on Hourly Wages of Construction Carpenters and Laborers

Construction carpenters

Regression coefficients-Western United States $N=759$

Equation	Dep. variable	Constant	Potential experience	Potential experience^2	Years schooling	Hispanic	Spanish only	F	R^2	Adj. R^2
(*I*)	Hourly wage	5.17 (4.37)[a]	0.43 (8.36)[a]	−0.01 (−5.17)[a]	0.39 (4.44)[a]	−1.53 (−3.10)[a]	−1.47 (−1.96)[a]	41.82	0.23	0.22

Regression coefficients-Southern United States $N=835$

Equation	Dep. variable	Constant	Potential experience	Potential experience^2	Years schooling	Hispanic	Spanish only	F	R^2	Adj. R^2
(*J*)	Hourly wage	4.65 (5.73)[a]	0.26 (6.79)[a]	−0.003 (−4.26)[a]	0.40 (6.63)[a]	−1.42 (−3.77)[a]	−0.04 (−0.09)	40.40	0.20	0.20

Construction laborers

Regression coefficients-Western United States $N=695$

Equation	Dep. variable	Constant	Potential experience	Potential experience^2	Years schooling	Hispanic	Spanish only	F	R^2	Adj. R^2
(*K*)	Hourly wage	5.02 (5.35)[a]	0.26 (6.80)[a]	−0.004 (−4.05)[a]	0.35 (5.13)[a]	−0.81 (−2.02)[a]	−0.44 (−0.86)	24.66	0.15	0.15

Regression coefficients-Southern United States $N=836$

Equation	Dep. variable	Constant	Potential experience	Potential experience^2	Years schooling	Hispanic	Spanish only	F	R^2	Adj. R^2
(*L*)	Hourly wage	4.86 (7.00)[a]	0.21 (6.73)[a]	−0.003 (−4.40)[a]	0.28 (5.32)[a]	−0.68 (−2.10)[a]	−0.51 (−1.07)	23.9	0.13	0.12

Note: Dep.=dependent; t values shown in parentheses.

[a]$p<0.05$; Data source: current Population Survey, 1998–2001.

However, this is only feasible if the entire construction workforce, including Hispanics, is well trained with the ability to quickly adopt new skills and techniques.

This research also identifies the need for updated experience estimation equations. As noted, the experience equations from the U.S. Bureau of Labor Statistics are based on observed United States workforce patterns between 1937 and 1973. The primary reason that the experience equations have not been revised is the limited amount of detail available in the 1980 IRS and Social Security data. Therefore, new experience estimation equations should be developed based on available data such as worker age, education, and hours worked per year as measured by the current population survey and current employment survey.

Finally, there is a need for an association to be created to exclusively represent the needs and concerns of the Hispanic construction workforce. Despite dramatic growth in the number of Hispanic construction workers over recent years, there is no trade organization that specifically represents this significant portion of the construction workforce (Dan Bennet, President of the National Center for Construction Education and Research, Personal Communication August 6, 2002). An Hispanic construction trade organization could promote better wages, improved safety, and additional training and education needs for Hispanic construction workers.

Conclusions

The findings reported here indicate that:

1. The percentage of Hispanic workers in construction is increasing at a tremendously fast rate, especially in the Western and Southern United States;
2. The top two occupations for Hispanic construction workers are: (1) Construction laborer and (2) carpenter;
3. On average, Hispanic construction workers are younger and have fewer years of schooling than non-Hispanics;
4. Controlling for the effect of work experience and years of schooling, Hispanic laborers and carpenters are paid a lower hourly wage than their non-Hispanic counterparts in the Southern and Western United States;
5. The hourly wage rates increase at a slower rate per work experience for Hispanic construction workers than their non-Hispanic counterparts (as shown for carpenters and laborers in the Western United States);
6. The effect of the ability to communicate in English did not significantly effect hourly wages for Hispanic laborers and carpenters, except for Hispanic carpenters in the Western United States (where it had a negative effect on hourly wage); and
7. The increase in the Hispanic construction workforce, a lower paid and less educated workforce, may have an impact on the larger construction industry particularly in real wages, education, training, and the adoption of new technology and workforce strategies.

Acknowledgment

The writer would like to thank Larry Rosenblum with the U.S. Bureau of Labor Statistics for his assistance in this research effort.

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