

Overcoming the Challenges of Safety Training for the Rising Number of Hispanic Workers on U.S. Construction Job Sites

**James L. Jenkins, Jeffery J. Lew and
Gregory C. Lasker**
Purdue University
West Lafayette, Indiana

Richard C. Ryan
University of Oklahoma
Norman, Oklahoma

Predictions made by the U.S. Department of Labor indicate that the Hispanic population in the United States will increase from the 14.5 percent of the population in 2005 up to an estimated 24.4 percent in 2050. This increase, due largely to the immigration of foreign-born workers, will affect the composition of the future American workforce. Statistics show that Hispanic workers are more likely to die in the workplace than other American workers. Construction work, which traditionally attracts immigrant workers from all races, continues to remain as one of the deadliest occupations for both Hispanic and non-Hispanic workers in the United States. But it is especially dangerous for Hispanic workers possessing limited English skills and safety knowledge. Approximately 25% of recent construction-related fatalities involved Hispanic workers. Low education rates, a lack of proficiency in the English language, and cultural issues within the Hispanic community complicate the safety training of Hispanic immigrant workers on U.S. construction job sites. As the American construction industry continues to grow, the number of Hispanic construction workers and their corresponding high rates of work-related injuries/fatalities will also increase unless steps are taken to properly train this important segment of the workforce. This paper will discuss the trends of Hispanic workers coming into the American workforce and address the main issues and best practices related to the safety training of this demographic group. This information can be used in the development of company safety policies/work procedures and incorporated into any construction safety course.

Keywords: construction, Hispanic workers, best practices, safety training

Introduction

According to U.S. Census information, the Hispanic/Latino population is the fastest growing demographic group in the United States. Many states in the U.S. have seen 150% -300% increase in Hispanic population. There were 17.9 million Hispanic workers in the United States in 2004. At least 55 percent of these Hispanic workers were born in a country other than the United States. Two-fifths of these foreign-born workers were not U.S. citizens (Richardson, 2005). Projections estimate that the Hispanic workforce will increase by more than 6 million, a 34 percent growth rate – which is 5 times as fast on non-Hispanics, between 2004 and 2014 (Occupational Outlook Quarterly, Winter 2005-2006). Population projections state that the number of Hispanics in the United States is estimated to increase from the 35,622,000 recorded in the year 2000 up to 102,560,000 in 2050. Ultimately, Hispanics, which accounted for 12.5 percent (1 in 8 people) of the U.S. population in 2000 and 14.5 percent in 2005, will total up to 24.4 percent (1 in 4 people) of the population by 2050 (U.S. Census Bureau, 2005 and Richardson, 2005). Per U.S. Census Bureau data (2006), Hispanics are now America's largest minority. With a 3.3 percent increase in population from July 1, 2004, to July 1, 2005, Hispanics are also the fastest-growing group of any race in the United States (U.S. Census Bureau, 2006). Driven largely by immigration, this dramatic growth of the Hispanic population will present challenges in worker safety in the U.S. workplace.

Sadly, the statistics tell the story. Data provided by U.S. Bureau of Labor Statistics show that more than 9,300 Hispanic workers died on the job between the years 1992 to 2004. Based on 2004 census data, Hispanics only made up 13% of the U.S. workforce, but accounted for almost 16% of all work-related fatalities. The fatal work injury rate for Hispanic workers in 2004 was 4.9 fatalities per 100,000 workers, 20 percent higher than non-Hispanic workers. Hispanics immigrating to the United States tend to work the most dangerous jobs in the most dangerous fields. Based on U.S. Bureau of Labor Statistics data, construction ranks second only to agriculture in the number of Hispanic workers (Vazquez & Stalnaker, 2004). The overwhelming evidence that the construction labor force will be largely Hispanic-speaking in the future should be incentive for construction companies to adopt a more proactive approach to the safety training of these workers (Ryan and Chacon, 2007).

Hispanic Population and Workforce Rates

The composition of the American population, and corresponding workforce, is changing. The Department of Labor estimates that the population of the United States will grow about 50 percent by the year 2050 and the Hispanic demographic population contributes a large portion of the projected increase (Richardson, 2005). Census data shows that the Hispanic population is the fastest growing demographic group in the United States (U.S. Census Bureau, 2006). Per U.S. Census definitions, the term *Hispanic* refers to people whose origin are Mexican, Puerto Rican, Cuban, Central or South American, or other Hispanic/Latino background, regardless of race.

In 2000, the U.S. population was about 75.1 percent white, 12.3 percent black, 12.5 percent Hispanic, 3.6 percent Asian and Pacific Islander, and 0.9 percent American Indian. Data from 2005 shows the population breakdown changed to 74.7 percent white, 12.1 percent black, 14.5 percent Hispanic, 4.3 percent Asian and Pacific Islander, and 0.8 percent American Indian (U.S. Census Bureau, 2005). Projections for 2050 estimate a population of 52.8 percent white, 24.4 percent Hispanic, 13.6 percent Black, 8.2 percent Asian and Pacific Islander, and 0.9 percent American Indian. Much of the dramatic growth in the Hispanic population will result from the immigration of foreign-born workers working to support families left in their home country (Pew Hispanic Center, 2006).

According to a study conducted by the Associated Press, Hispanic workers are 80 percent more likely to die in the American workplace than workers of any other race (Pierson, 2005). The construction industry, which traditionally attracts a large share of immigrant workers eager to earn a living, is responsible for a large number of work-related fatalities, especially within the Hispanic workforce (Vazquez & Stalnaker, 2004). Data from the U.S. Census Bureau that indicates many Hispanic immigrant workers have low education rates, few job skills, and a lack of proficiency in the English language (See *Learning Aptitudes* section of this paper). These issues lead to high injury/fatality rates and will present challenges to worker safety within the current and future U.S. workplace, especially with the increase in the number of construction projects.

Predicted Growth of the Construction Industry

Per the Bureau of Labor Statistics, construction employed 5.4 percent of all workers in 2004. Current employment statistics estimates show total annual average construction employment

rose from 5,274,000 in 1995 to a high of 6,965,000 in 2004, which surpassed the previous high achieved in 2001 (Bureau of Labor Statistics, 2005). Employment projections data from the Bureau of Labor Statistics indicate that U.S. construction employment will continue to increase 11.4 percent over the 2004-2014 period (OOQ, Winter 2005-2006). While total employment for all industry sectors is projected to grow 14.8 percent, *construction* is the only goods-producing sector in which employment is projected to grow (BLS Website). The growth in construction will result in an increase of Hispanic construction workers, and, if the current trends aren't reversed, a corresponding increase in Hispanic injury/fatality rates.

Trends of Hispanic/Latino Worker Fatality Rates

Fatal work injuries to Hispanic workers in the U.S. increased in each year from 1992 to a record-high of 895 Hispanic worker deaths in 2001, until the numbers decreased in the years 2002 (841 deaths) and 2003 (794 deaths). In 2004, the downward trend of fatal work injuries among Hispanic workers was reversed as the number jumped back up to 883, an 11 percent increase from the previous year. In 2004, *foreign-born* Hispanic workers accounted for 578 fatalities, or 65 percent of Hispanic worker deaths. (Census of Fatal Occupational Injuries, 2004 and Richardson, 2005). A comparison of fatal injury rates indicates they are higher for all Hispanic workers. Richardson (2005) indicates that the fatal work injury rate for all U.S. workers in 2004 was 4.1 fatalities in 100,000 workers and 4.9 fatalities per 100,000 workers for Hispanic workers, close to a 20 percent difference. The fatality rate was even higher for foreign-born workers, which was 5.9 fatalities per 100,000 workers, which is 44 percent higher than the national rate. Fatalities to Mexican-born workers accounted for two out of every five fatalities in foreign-born workers (41 percent) in 2004, the most of any single country. India was second with 4 percent of foreign-born fatalities, followed by Cuba, Korea, El Salvador (each with 3 percent) (Richardson, 2005). In 2004, 578 out of the 883 (65 percent) Hispanic fatalities were foreign-born workers (Census of Fatal Occupational Injuries, 2004). According to Joseph DeMaria, president of American Safety Associates in Las Vegas, the new arrivals in America face a plight similar to the Asian, German, Irish and other immigrants who came before them. They tend to work the most dangerous jobs in the most dangerous fields, such as agriculture and construction (Evans, 2004). The lopsided representation in these higher-risk jobs has led to higher numbers and rates of fatal occupational injury among Hispanic workers (Richardson, 2005).

The danger is even greater for immigrants in the country illegally. "Undocumented workers can get themselves into precarious positions with unscrupulous employers trying to cut corners," states Peter Rimsans, deputy commissioner of the Indiana Department of Labor. "They may be getting paid less than minimum wage or (less than) their documented counterparts, but they don't feel like they are in a position to allege discrimination or refuse to do an unsafe assignment, because their employer might fire them or report them to immigration authorities" (Evans, 2004).

Construction remains as one of the deadliest occupations for both Hispanic and non-Hispanic workers in the United States. The fatality rate of 11.0 per 100,000 construction workers in 2005 is much higher than the 4.0 rate experienced for all other U.S. workers. This is evidenced by the recorded 1,186 construction fatalities in 2005. While this number decreased from the 1,224 construction-related deaths in 2004, it is still the highest total of deaths within any industry sector and amounted to about one out of every five fatal work injuries recorded in 2005 (Bureau of Labor Statistics, 2005).

As stated earlier, out of the 9,300 Hispanic workers that died in the workplace between the years 1996 to 2004, approximately 3,668 of them died on construction job sites. In 2004, 307 of the 1,224 fatalities in construction were Hispanic workers (25%). Two of the top-five Hispanic construction occupations (laborer and electrician) are in the top-five of most hazardous construction jobs (Goodrum and Dai, 2005). Data from the Center to Protect Worker Rights indicates the rate of fatalities per 100,000 for construction laborers and electricians were 43.7 and 20.9 respectively (Center to Protect Workers Rights, 2002). Research also shows that fatal work injuries involving construction laborers accounted for nearly one out of every four construction fatalities in 2003 and 2004 (Census of Fatal Occupational Injuries, 2004).

As the trends suggest, construction will continue to employ a large percentage of Hispanic workers, which are statistically more likely to be killed on the job. How will the construction industry handle the safety training for the ever-increasing number of Hispanic workers entering the workforce? There are many issues construction supervisors/managers need to consider when training this demographic group.

Challenges Regarding the Safety of Hispanic Workers

There are many challenges related to training the Hispanic workforce. While the most obvious, and common, obstacle in the safety education of Hispanic/Latino workers is the language barrier, there are other barriers to consider. The following paragraphs address these common issues and illustrate best practices used by contractors on today's construction jobsites. Many items discussed in these paragraphs include the first-hand accounts of professionals personally involved with Hispanic worker construction safety. These individuals, based on their expertise, were invited by the U.S. Department of Labor to present their personal accounts/views during panel discussions at the first DOL-OSHA Department of Labor/Occupational Safety and Health Administration) Hispanic Safety & Health Summit. Therefore, even though this information can't be substantiated by relevant research, the authors felt that their insights make valuable additions to this paper.

Communication Barriers

Many experts consider the language barrier as the biggest obstacle to safety training for Spanish-speaking construction workers. Obviously, a lack of language skills will lead to a lack of communication and misinterpretation of instructions or requirements. Few construction supervisors/managers speak Spanish. Additionally, non-Spanish speaking supervisors don't utilize proper skills when trying to communicate with Hispanic workers. Many monolingual supervisors speaking with Spanish-speaking workers tend to raise their voices and talk slower. These actions do not increase the understanding of the information, and can be perceived as disrespectful (Pace, 2004). Taking the time to explain the safety rules, instead of just saying "here are the rules, follow them", is a good way to build respect in the eyes of the Hispanic worker (Pace, 2004). This effort will also help the worker understand the concept behind the safety regulations and thus, become more willing to comply with the rules. Even when safety requirements are carefully explained, one should verify whether or not the knowledge is understood. Asking the question "do you understand" is not enough. Regrettably, not wanting to show weakness or to appear they are disagreeing with the supervisor, the typical Hispanic worker will answer "yes" to this question, even

though the safety instructions are not fully understood. Hispanic construction workers with little or no knowledge of English are going to be very reluctant to express a lack of understanding after an orientation or training session. Competency exams or reviews help evaluate whether the information has been understood or not (Ryan and Chacon, 2007). To help break down the language barrier, OSHA offers a variety of Spanish-language education and training programs. These resources, which include Spanish-language publications, brochures, and education centers, are intended to help Hispanic workers and their employers improve their knowledge of safe and healthful work practices to comply with OSHA standards (OSHA fact sheet, 2007).

Bilingual Employees/Trainers

One way companies can bridge the communication gap is through the use of bilingual employees. One recent study indicates that many Hispanic workers are willing to go through English classes on their own time, if the company offered such a benefit (Ryan and Chacon, 2007). To aid in the flow of communication, one company, in particular, issues a blue hardhat to employees who are fluent in both English and Spanish (Vazquez & Stalnaker, 2004). This enables translation and/or communication between Spanish- and English-speaking workers. Using other high visibility/colored items, such as armbands or safety vests, also works well (Pace, 2004). Paying these identifiable bilingual employees a higher wage helps insure active participation in this program. It may even serve as an incentive for other workers to learn a second language. A common mistake is to assume that all bilingual workers will automatically be good supervisors. Management must make sure these employees are given the skill training that prepares them for managing fellow workers.

Bilingual safety training is a common way companies address the issue of training the Hispanic workforce. It is important, however, to have the bilingual training given by an instructor who is of the same ethnic background of the workers being trained (McMahon, 2004). Workers will be more apt to listen if a fellow countryman presents the material. Furthermore, as written in a recent article in *Professional Safety*, the Hispanic language, literacy, and culture must be understood by the instructor to help trainees relax and be comfortable during the training. This comfort level fosters participation, including asking questions and sharing past experiences. When this occurs, the trainees are more likely to understand and retain the safety knowledge.

The use of a bilingual safety director can have a very positive effect on jobsites with Hispanic workers. As an example, 70 percent of the workers employed by American Paving Company speak little or no English. According to Elias Borrero, Vice-President of American Paving Company, the company averaged one lost-time injury each month in 2003. Since hiring the bilingual Safety Coordinator at the beginning of 2004, all company literature has been translated into Spanish and safety meetings are now conducted in both English and Spanish. As a result, the company only had one lost-time injury between January 2004 and July 2004 (Borrero, 2004).

Learning Aptitude

The lack of Spanish-speaking supervisors is only part of the problem. As stated by Jenny Sarabia, the Executive Director of the Indiana Commission on Hispanic/Latino Affairs, "translating brochures and signs into Spanish is not enough. Many of the new Hispanic arrivals in Indiana (or the United States) are unable to read English or Spanish. Someone needs to be there explaining things to them in their own language" (Evans, 2004). Contractors

need to consider education levels when planning training programs (Pinch, 2004). Per 2005 Census data, 41.5 percent of the Hispanic population 25 years or older in the U.S. had an educational level of less than a high school diploma, compared to 14.8 percent of all races combined. In addition, 25.1 percent of Hispanics who are 25 years or older in the United States have less than a 9th grade education in 2004, compared to 6.3 percent of all races combined (U.S. Census Bureau Education Rates, 2005). Many Hispanics within the foreign-born Hispanic group are illiterate in English and their native language. Therefore, the ability of some Spanish-speaking workers to read and understand policies, even if translated into Spanish, is impacted by their low reading abilities (Vazquez & Stalnaker, 2004).

So how does a company communicate safety rules and regulations to a population that can't read or write in any language? Per a Panel Discussion at the 2004 Department of Labor-OSHA Hispanic Safety and Health summit, using native bilingual instructors, graphics, videos, color-coded signs, and hands-on training are effective tools. Hands-on training allows the instructor to demonstrate the skill and then requires the students/workers to duplicate the action. Follow-up training, such as the inclusion of topics into weekly safety meetings, should be used to reinforce the importance of skills learned (Nash, 2004). Handouts given out during safety meetings/training are another effective method. These handouts, even if written in English, can be translated by the worker's children or other family members (if they speak English) back home. This helps the family of the worker get involved with the safety of their family member on the jobsite. As with any handout, pictures should be added and long sentences avoided (Pace, 2004). The use of after-work education classes, such as an English as a Second Language course, Spanish First Aid/CPR training, and Spanish OSHA 10 & 30-hour training, are another way to aid in the bridging the communication and safety knowledge gap.

Additionally, care must be taken when translating English to Spanish and vice versa. One should not just rely on translation software, as there may not be a correct translation for some words, especially the technical terms. For example, *hardhat* is not a term found in the Spanish used in the Mexican language. The closest term for hardhat is the word used for helmet, which is *casco* in Spanish. Also, when translating information, be aware that there isn't just one Spanish language. Many different dialects are used. For example, the Spanish used in the Mexican language is somewhat different than that used in South American countries (Pace, 2004). The correct translation should always be confirmed with someone who is fluent in the respective language prior to presenting the material to an individual/group of workers.

Importance of Family

Understanding family is at the heart of the Hispanic workers' life. Family is extremely important to the typical Hispanic worker. The typical immigrant Hispanic worker leaves their native country to pursue the American dream. They know work is dangerous, but do it anyway in order to support their families back in their native country (Moreno, 2004). In fact, many immigrant Hispanic workers employed in the U.S. are the sole-provider for their families left behind in their home country. Not only are they the sole-provider for their immediate family (wife and children), but their responsibility may be expanded to include extended family (parents, in-laws, cousins, nieces/nephews). All money, except the absolute minimum needed to survive in the United States, is sent back home to support the needs of the family left behind. In fact, the biggest fear of these immigrant workers is losing the ability to remain employed in the United States (Howard, 2004). Because of this fear, a Hispanic

worker will rarely report unsafe conditions. Having a job is an honor and they will not take a chance on losing it. This desire to provide for their family can be a factor to use in safety training. One way is to appeal to their macho attitude is by explaining if they get hurt, some other man will step up and provide for their family. Some of these workers may even work two jobs, so they need to understand that if they get hurt on your jobsite, they may not be able to work at their other place of employment (Pace, 2004). Some companies even require workers to place a picture of family members inside their hardhat, to serve as a reminder of their obligations off the jobsite. Engaging the family is a great way to reach the Hispanic worker. Some companies use fairs to entertain wives and children while workers go through safety training on Saturdays.

Taking Risks

The risk-taking attitude of many Hispanic workers stems from the way business is conducted in their home country. There is usually no emphasis on worker safety in their home country. Ryan and Chacon (2007) found that Hispanics construction workers usually do not wear protective equipment because they are unaccustomed to wearing equipment when they worked in their home country. Sometimes safety equipment, such as safety glasses, gloves or support belts get in the way of the work, and are therefore not used. Also, these workers have been taught that management is never to be questioned, even if the worker is told to go into a dangerous situation. Challenging authority is considered less than wise, even if that person is wrong (Acosta, 2004 and Vazquez & Stalnaker, 2004). In the eyes of these workers, taking risks and getting the job finished quickly takes precedence over performing the work safely (Ryan and Chacon, 2007). Managers need to communicate that taking risks are unacceptable (Skidelsky, 2004). Unfortunately, injuries are often considered the price they have to pay in order to reach the American dream (Acosta, 2004). The poor safety attitudes of some employers contribute to the problem. According to Sergio Aguilera, Consul General of the Mexican Consulate in Indianapolis, too many employers and managers don't see Hispanic workers as human beings (Evans, 2004). Hispanic workers are usually thrown into dangerous, hard-to-fill construction jobs with little or no training or safety equipment. If they get hurt, unscrupulous managers feel that Hispanic workers are expendable and that they can always get replacement workers.

Task-Specific Training

Managers need to provide more specifics on working safe concerning a specific piece of equipment or job site situation. Statements such as "be careful out there today" are not explicit enough. Hispanic workers may not be accustomed to the personal protective equipment, tools, equipment, technology, or methods commonly used on U.S. construction sites. While the use of these items are common practice to the typical U.S. worker, some tools and practices are unfamiliar since many Hispanic workers were not accustomed to using them back in their home country. The lack of tool savvy can be attributed to the abundance of manual labor in Latin American countries (Ryan and Chacon, 2007). Due to low literacy rates, classroom training—even in Spanish—is often not effective. Using hands-on training that requires demonstration of understanding is an effective way to overcome literacy and language barriers. Using this method, workers are shown, not told, how to work safely. Afterwards, making the employee duplicate the activity correctly will help prove understanding (Vazquez & Stalnaker, 2004). Mentoring newly-employed Hispanic workers with experienced well-trained workers may be a well-suited training approach for this segment of the construction work force (Goodrum and Dai, 2005).

Success with Hispanic Outreach

While bad cases of Hispanic Safety can be viewed in articles and news broadcasts when accidents occur, there are many good examples. Torcon, Inc, a General Building Contractor in New Jersey recognized that they were hiring many Hispanic workers, most of which lacked proper safety training. As a result, they incorporated a pro-active, bi-lingual approach into its comprehensive safety program. For all of their job sites that employ Hispanic workers, Torcon supervisors are required to be bi-lingual, thus eliminating the need for interpreters. The site safety orientation is conducted in both English and Spanish, and the written orientation materials are also in both languages. Spanish versions of health and safety posters and emergency evacuation procedures are also provided. Even safety training videos are produced in both English and Spanish. Finally, in addition to providing bi-lingual training of its own employees, Torcon mandates that all its contractors conduct weekly, bi-lingual safety meetings ("Tool Box Safety Talks") and to provide Torcon with documented proof that the contractor's employees attended (Hispanic Outreach Success Stories, 2006). Since Torcon's bilingual communication and safety training program was initiated in 2001, the Company experienced an estimated 30% decrease in injuries at its job sites because its Spanish-speaking workers are better trained in safety and health. Another good example of training Hispanic workers includes the \$2.7 billion expansion for the Dallas/Fort Worth International Airport, a 5-year project completed in 2005. The airport's Board of Directors, disturbed by predictions depicting anticipated injury and death rates for the upcoming project implemented a mandatory 40-hour safety training program. In cooperation with the two largest prime contractors, classes were presented in both English and Spanish, with the individual employee selecting which class they would attend. Each of these classes had one-half day dedicated to teaching students how to say basic construction tool names and terms in the other language (English terms in the Spanish class and Spanish terms in the English class). Instruction also included a mix of classroom and hands-on lab work. Students received printed materials to take on the jobsite, which included pocket cards with translations of key construction terms. By the time the expansion was completed in 2005, a total of 8,100 students completed the classes presented in English and 6,172 completed the classes presented in Spanish. As a result of this training, the expansion project experienced recordable and lost-time rates below state and national averages. In addition, after nearly five years of work, the project did not have any fatalities. Furthermore, it is hoped that the training received by workers will positively impact the safety record of any future jobsite employing these trained workers (OSHA, 2006).

Conclusion

The construction industry continues to remain one of the deadliest occupations for all workers in the United States. But it is especially dangerous for Hispanic workers possessing limited English skills and safety knowledge. As the industry grows, trends suggest the number of Hispanic construction workers will also increase. The large influx of immigrant Hispanic workers into the American workforce will further complicate matters pertaining to safety training due to the lower education levels and the lack of proficiency of the English language or cultural issues in this demographic group. Promoting English class attendance among Hispanic workers, implementing visual-based learning, verification of understanding task-specific safety information, and using bilingual mentors are among the best practices

used by proactive construction companies. The items presented in this paper will supplement existing company safety programs and can be incorporated into university construction safety courses. Once construction supervisors/managers understand and minimize the obstacles to training this segment of the workforce, they will have a positive impact on the safety of Hispanic construction workers and the corresponding fatality rates.

References

- Acosta, A. (2004, July). Appreciating Hispanic Social and Cultural Traditions Plenary Address. Department of Labor-OSHA Hispanic Safety & Health Summit; Orlando, FL
- Borrero, E. (2004, July). Social and Cultural Issues Related to a Hispanic Workforce Panel Discussion. Department of Labor-OSHA Hispanic Safety & Health Summit; Orlando, FL
- Bureau of Labor Statistics (2005). Census of fatal occupational injuries summary. Retrieved February 13, 2007 from, <http://www.bls.gov/news.release/cfoi.nr0.htm>
- Bureau of Labor Statistics (2006). Foreign-born workers: Labor force characteristics in 2005. Retrieved February 13, 2007 from, <http://www.bls.gov/news.release/pdf/forbrn.pdf>
- Census of Fatal Occupational Injuries (2004). U.S. Department of Labor Bureau of Labor Statistics Web Site: <http://www.bls.gov/news.release/cfoi.toc.htm>
- Center to Protect Workers Rights (CPWR) (2002). *The construction chart book: The U.S. Construction industry and its workers*. Washington, D.C.
- Education Rates (2005). U.S. Census Bureau. Retrieved February 13, 2007 from <http://www.census.gov/population/www/socdemo/education/cps2005.html>
- Evans, T. (2004, April 11). On-job deaths rise among Hispanics. *The Indianapolis Star*. Retrieved April 22, 2004, from <http://www.indystar.com>
- Goodrum, P. and Dai, J. (2005, September). Differences in occupational injuries, illnesses, and fatalities among Hispanic and non-Hispanic construction workers. *Journal of Construction Engineering and Management*, 131 (9), 1021-1028.
- Hispanic Outreach Success Stories (2006). Retrieved December 15, 2006 from http://www.osha.gov/dcsp/compliance_assistance/hispanic_stories/hispanic_stories.html
- Hispanic Population in the United States: 2004 Detailed Tables, U.S. Census Bureau Web Retrieved December 7, 2006, from <http://www.census.gov/population/www/socdemo/hispanic/cps2004.html>
- Howard, J. (2004, July). Taking Action to Improve Safety and Health for Hispanic Workers Panel Discussion. Department of Labor-OSHA Hispanic Safety & Health Summit; Orlando, FL
- McMahon, B. (2004, July). Social Best Practices in Safety and Health Panel Discussion. Department of Labor-OSHA Hispanic Safety & Health Summit; Orlando, FL.
- Moreno, L. (2004, July). Understanding Worker Safety and Health Plenary Address. Department of Labor-OSHA Hispanic Safety & Health Summit; Orlando, FL
- Nash, J. (2004, February). Construction safety: Best practices in training Hispanic workers. *Occupational Hazards*, 35-38.
- Occupational Outlook Quarterly (2005). Volume 49, Number 4. U.S. Department of Labor Retrieved May 23, 2006, from <http://www.bls.gov/opub/ooq/ooqhome.htm>
- OSHA Success Stories: Hispanic Outreach (2006). Retrieved December 11, 2006 from, http://www.osha.gov/dcsp/compliance_assistance/hispanic_stories/hispanic_stories.html
- OSHA Fact Sheet: Hispanic Outreach (2007). Retrieved February 10, 2007, from http://www.osha.gov/OshDoc/data_Hispanic/hispanic_outreach.pdf

- Pace, J. (2004, July). Social and Cultural Issues Related to a Hispanic Workforce Panel Discussion. Department of Labor-OSHA Hispanic Safety & Health Summit; Orlando, FL
- Pew Hispanic Center (2006, October 10). From 200 million to 300 million: The numbers behind population growth. Retrieved February, 13, 2007, from <http://pewhispanic.org/factsheets/factsheet.php?FactsheetID=25>
- Pierson, E. (2005, March 2). Private coalition to work for improved construction safety among Hispanics. Retrieved December 8, 2006, from http://www.brownsvilleherald.com/ts_more.php?id=63957_0_10_0_C
- Pinch, L. (2004, November). Safety and the Hispanic worker. *Construction Executive*, 13, 18-23
- Richardson, S. (2005, October). Fatal work injuries among foreign-born Hispanic workers. Bureau of Labor Statistics Website: <http://www.bls.gov/opub/mlr/2005/10/ressum.pdf>
- Ryan, R. and Chacon, E. (2007). Optimizing understanding of the Hispanic construction worker culture. *Quoin Contractor* [in-press].
- Skidelsky, S. (2004, July). Social Best Practices in Safety and Health Panel Discussion. Department of Labor-OSHA Hispanic Safety & Health Summit; Orlando, FL.
- U.S. Census Bureau American Community Survey (2005). Retrieved February 10, 2007 from, http://factfinder.census.gov/servlet/ACSSAFFacts?_submenuId=factsheet_0&_sse=on
- U.S. Census Bureau News Release (2006). Retrieved on February 10, 2007, from <http://www.census.gov/Press-Release/www/releases/archives/population/006808.html>
- Vazquez, R. and Stalnaker, C. (2004, June). Latino workers in the construction industry. *Professional Safety*, 49, 24-28.