

Safety Issues among Hispanic Construction Workers along the Wasatch Front in Utah

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During the last few decades the number of immigrants seeking work in the construction industry in the United States has increased dramatically. Of those seeking jobs in construction, Hispanics represent the largest and fastest growing population. The proportion of reportable accidents among Hispanic on-site construction workers in the United States is higher than that of non-Hispanics. This trend of on-site construction accidents is evident not only in states that have traditionally high populations of Hispanics, such as New York, Florida, California, Arizona, and Texas, it is also manifested in the State of Utah. This research focused on causes of accidents among Hispanic on-site construction workers along the Wasatch Front of Utah, which includes Brigham City, Utah in the north to Provo, Utah in the south. General contractors, subcontractors, job-site superintendents and on-site workers were interviewed to determine both causes of and solutions to accidents among Hispanic on-site construction workers. Results of this research indicated that some of the major causes of on-site accidents among Hispanics included worker negligence, lack of proper safety training, and communication issues among job-site personnel. Suggested solutions include financial bonuses for good safety records, on-site translators, and recognition of workers who complete approved training in job-site safety.

The Problem and Its Setting

The Problem Definition

During the last 30 years immigration into the United States has been at historically high levels in what has been called the Second Great Migration Wave. Currently, some 900,000 foreigners immigrate to the United States each year, including both legal and illegal immigrants; most of these are Hispanic (Brunette, 2004). With regards to Hispanic workers, the construction industry (on-site workforce) in the United States has a larger share of Hispanic workers than any other industry except agriculture. During the past 15 years, the Hispanic work force in the construction industry has been continuously growing (Dong & Platner, 2003; Dong, Fujimoto, Ringen & Men, 2009; Goodrum, 2004; Pransky, Moshemberg, Benjamin, Portillo, Thackrey & Hill-Fotouhi, 2002). For example, from 2001 to 2007 the total number of Hispanic construction workers in the United States more than doubled, from 1.3 million to almost 3 million. In addition, in 1990, Hispanics represented 9 percent of all employees in construction; and less than 20 years later, in the year 2008, Hispanics represented 24.7 percent, or 1 out of every 4 construction workers in the United States (Brunette, 2004; CPWR, 2009). This incremental change is more obvious among states with high percentages of Hispanic populations, including California, Texas, Arizona in the West and Florida and New York in the East (U.S. Census Bureau, 2009). Pamela S. Perlich, Senior Research Economist and member of the Bureau of Economic and Business Research of the University of Utah, found that the growth among the foreign-born population in the United States was reflected to some extent in the State of Utah. Currently, racial and ethnic minorities are estimated to be 18 percent of the total Utah population but are expected to increase to 41 percent by 2050 (Perlich 2008).

The high proportion of Hispanic on-site construction workers in the United States has brought new challenges in safety management for construction companies, especially in relation to reportable accidents. The reportable accident rates during the last 15 years in the construction industry have been increasing at an alarming rate among Hispanics (Lavy, Aggarwal & Porwal, 2010). In an article published in the *Journal of Occupational and*

Environmental Medicine, the authors stated the following: “The inherent danger of working in the construction industry is a reality for all workers, regardless of ethnicity; however, Hispanic construction workers in some studies have been found to have especially high morbidity and mortality” (Anderson, Hunting & Welch, 2000). Other research studies also indicate that accident rates are proportionally higher among Hispanic construction workers because of their customs, traditions, poor trade-related skills, and language barriers. With regards to the language barrier, it is estimated that at least one-third of all Hispanic construction workers speak only Spanish (Goodrum & Jiukun, 2005; Acosta, Grote, Salem & Daraiseh, 2006; Dong & Platner, 2003; Menzel & Gutierrez, 2010, Brunette, 2004).

According to Elena Bensor, workplace safety manager for The Utah Labor Commission, some of the possible reasons for high accident rates among Hispanic construction workers in Utah include the following:

- It is possible some Hispanic workers don’t understand the risk they face in construction.
- It is possible that Hispanic workers in their home countries may have made a living in traditional ways (e.g., farmers using simple tools). As a result, these workers may not be prepared for the type of construction work they find in the United States.
- It is possible that in their home countries, some Hispanic workers may have been employed in settings where safety was not emphasized as much as it is within the United States.
- Hispanic construction workers might not receive on-the-job safety training.
- Hispanic workers might lack communication skills in English. Communication means much more than to just speak passable English; it sometimes requires workers to ask questions for clarification of instructions.
- Another problem might be that Hispanic workers are afraid to report unsafe conditions or report injuries of co-workers to their supervisors.
- Compared to non-Hispanics, Hispanic workers might not follow safety procedures, even after having been instructed, because they are in a hurry (Utah Labor Commission, 2008).

Based on the review of literature and the authors’ construction experiences, Hispanic workers are often found in dangerous situations on construction sites, whether voluntarily or by assignment. In 2008 and 2009, one of the authors, who is from Peru, had the opportunity to work on several construction projects along the Wasatch Front in Utah. From personal observations it was evident that Hispanic workers were consistently assigned high-risk tasks. In fact, on a few occasions, this author was a witness to serious workplace accidents.

Problem Statement and Purpose of the Study

The problem is that Hispanic on-site construction workers experience more reportable accidents than non-Hispanic construction workers along the Wasatch Front in Utah. The main purpose of this research is to determine why there are more reportable accidents among Hispanic workers than non-Hispanic construction workers along the Wasatch Front in Utah. This study will also identify the most frequent causes of reportable accidents among Hispanic construction workers in the same geographic area. Finally, specific methods used by construction companies along the Wasatch Front in Utah relating to safety training among the Hispanic workforce will be examined and proposals will be made to reduce the rate of reportable accidents among Hispanic on-site construction workers along the Wasatch Front in Utah.

Methodology

Qualitative Study and Sample

Qualitative research is an evolving methodology that is used to gain new insights into phenomena. Its application has mainly been found in the social sciences, but it is gaining more momentum in other areas, such as organizational science and management. The results of a qualitative study usually result in a deeper understanding of a problem, whereas quantitative research reveals a broader but not so deep understanding. More than one method of data collection is necessary with qualitative research because it improves the validity of the findings (Merriam, 2002). This combination of multiple sources of data collection is called triangulation.

Method 1 – Eighteen general contractors and subcontractors were interviewed for this study. Their names came from a list of licensed contractors supplied by Utah's Division of Occupational and Professional Licensing (DOPL). Twenty job sites were visited, and personal interviews with construction company owners and/or job site managers were conducted in each case. Of the twenty sites selected for this study, five were residential projects, including three duplexes, a fourplex and a high-end, single-family residence. The remaining fifteen sites were large commercial projects, including two hospitals, a hotel, several religious buildings (temples), two public buildings, several large multi-family housing projects, and a number of retail business structures. For each of the commercial projects permission was granted by company owners to interview on-site superintendents and/or safety managers. Information gathered from these interviews provided insights into the perceptions of construction owners and managers regarding on-site accidents among Hispanic workers.

Method 2 - Personal interviews on each of the twenty job sites were also completed with Hispanic construction workers. These interviews focused on questions developed to determine causes of construction accidents among Hispanic construction workers.

Method 3 - Construction projects were visited and observed during their normal day-to-day activities which provided a unique perspective of the nature and sources of accidents among Hispanic construction workers. According to the literature review there were six trade classifications in which the rate of accidents among Hispanic construction workers appeared to be high, including drywall installers, concrete workers, painters, roofers, masons and common laborers (Brunette, 2004). At least two construction sites in each of the five counties along the Wasatch Front were selected for this study.

Development of Questionnaires

The survey instruments used in this study evolved from a thorough review of the literature, discussions with industry professionals, and input from university professors of Construction Management. One questionnaire was developed for owners, on-site superintendents and safety managers, and another questionnaire was developed for on-site construction workers. This questionnaire for on-site workers was administered in Spanish.

There were two main questions in this study. First, all participants in the study were asked to list in order of importance – most important to least important – what they perceived to be the three things that contributed most to job-site accidents among Hispanic construction workers. Respondents were also asked to list in order of importance, most important to least important, the three steps that should be taken in order to reduce or eliminate job-site accidents among Hispanic workers. In addition to these two questions, demographic information for on-site construction workers was also collected. This included information regarding respondents' age, where they were born, formal education, level of English fluency, and length of time in the construction industry.

A scoring system was devised to compile all of the results. Each respondent's first answer was assigned three points; the second answer in priority order was assigned two points; and the third answer was assigned one point. A grid was developed to categorize the data. All responses were entered into a spreadsheet, and individual scores were recorded for each response. Then the scores for each response were totaled, and the various responses were ranked from the most common to the least common.

Data Analysis

A total of eighteen general contractors, subcontractors, superintendents and safety managers were surveyed. Of those eighteen, five were residential contractors or subcontractors; the others were safety managers or superintendents of commercial construction projects.

Descriptive Statistics for Contractors and on-site Construction Managers

A high percentage of those surveyed had been in the construction industry for 15 or more years (72 percent); 17 percent of those surveyed had between 6 and 10 years of construction experience; and 11 percent said that they had worked in the industry between 11 to 15 years.

In 9 of the companies surveyed, at least 60 percent of all on-site workers were Hispanic; in 4 of the companies surveyed, between 40 and 60 percent were Hispanic; and in the remaining 5 companies between 10 and 20 percent of the on-site workforce was Hispanic. Hispanic workers represented an average of 46 percent of the construction workers in this sample of 18 companies.

Descriptive Statistics for on-site Hispanic Workers

When asked where they were born, on-site Hispanic workers responded as follows. The vast majority (83 percent) were from Mexico, followed by El Salvador and Guatemala, with seven and six percent respectively. Four percent of those surveyed were from Argentina or Peru. Almost 30 percent of Hispanic on-site workers were between 40 and 49 years of age. Hispanic workers between 30 and 39 years of age accounted for another 30 percent. Those two age groups represented the majority of the workers interviewed. Workers over the age of fifty represented 19 percent, while 15 percent of the Hispanic workforce was between 20 and 29 years of age. Only 6 percent of the respondents were workers less than twenty years of age.

Almost two-thirds (66 percent) of the Hispanic workers surveyed had completed a high school education. Almost one-fourth (23 percent) had a junior high school level of education. Only 9 percent indicated that they had some classes in college, but none had earned a college degree. Two Hispanic workers who had attended college expressed the following: "We came to work in the United States because we could earn more money here in the U.S. rather than working with a university degree in our home country."

Hispanic workers were often proficient or had experience with more than one construction trade. For example, 28 percent of the workers surveyed indicated proficiency in 2 trades, while 23 percent stated that they were productive in at least 3 trades; only 23 percent stated that they were only experienced in 1 trade. Interestingly, 19 percent said they could work in every trade related to construction; the remaining workers did not answer the question.

Of those workers surveyed, 12 percent indicated that they did everything on the job site; 11 percent were painters; 10 percent worked with drywall, and another 10 percent said they were common laborers. Concrete workers accounted for 8 percent, framers for 6 percent; insulation installers and tile workers each represented 5 percent of those surveyed. About 9 percent of the workforce was spread among masons, carpenters, and stucco workers. The remaining workers indicated that even though they were on site, they did not participate in any specific work activity.

With respect to speaking and understanding English, only 15 percent of the workers surveyed indicated that they were fluent. More than half (51 percent) said that they understood very little English, while one-fifth (21 percent) did not understand or speak English at all. About 13 percent said that they spoke and wrote "passable" English. Interestingly, the two youngest workers of those surveyed said that the majority of the Hispanics on the construction sites believed that they understand English well, when the truth was that they really did not.

Factors Relating to on-site Accidents Among Hispanic Workers

When asked to list in priority order the three most important things that contributed to accidents among Hispanic construction workers, 18 contractors, subcontractors, safety managers or superintendents responded. Forty-seven Hispanic construction workers also responded to the same question.

As previously explained, because the answers were given in priority order, listed one through three, a weighted scoring system was used to compile the results. For general contractors, subcontractors and site managers, 14 different responses ranged from *lack of training* to *electricity hazards*. The ten most common responses among this group of respondents were: 1) *lack of proper training* (25.5 percent of the point total of the weighted scoring system); 2) *language barriers* (21.4 percent); 3) *lack of care for risk* (8.2 percent); 4) *communication issues* (7.1 percent); 5) *worker carelessness* (6.1 percent); 6) *falls on the job* (6.1 percent); 7) *lack of experience* (5.1 percent); 8) *not understanding safety hazards* (5.1 percent); 9) *in a hurry* (4.1 percent); and 10) *not wearing proper safety equipment* (4.1 percent). The other 4 responses ranged from *safety attitude was not a priority due to cultural backgrounds* to *electricity hazards*.

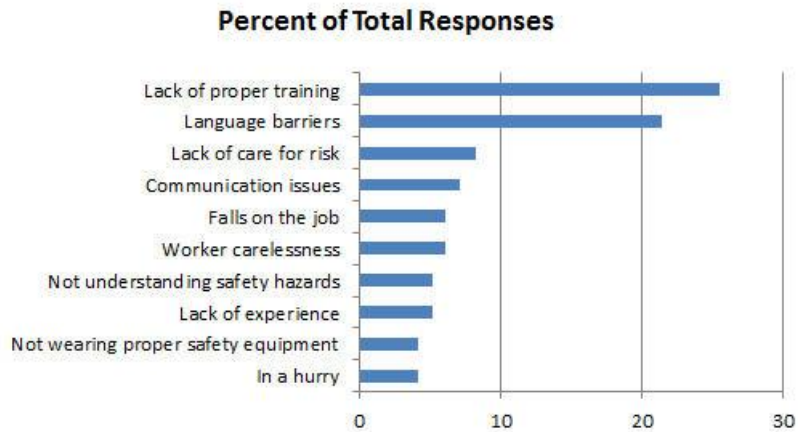


Figure 1: The 10 most common factors (out of 14 unique responses) relating to accidents among Hispanic workers according to contractors, subcontractors and site managers.

Using the same scoring system described above, the 47 Hispanic workers interviewed gave 39 unique responses, with the 10 most common responses being: 1) *working too fast* (12.2 percent of the point total of the weighted scoring system); 2) *distractions* (10.1 percent); 3) *lack of communication* (8.3 percent); 4) *going to work under the influence of alcohol or harmful drugs* (6.1 percent); 5) *worker negligence* (6.1 percent); 6) *worker carelessness* (5.8 percent); 7) *lack of experience* (5.8 percent); 8) *lack of training* (5.8 percent); 9) *lack of safety* (5.4 percent); 10) *not using personal protective equipment* (4 percent). The next 10 responses included *not using proper tools*, *cultural issues*, *stress*, *Hispanics were assigned to risky jobs*, *tiredness*, *lack of safety signals*, *falls*, *overconfidence*, *lack of prevention*. The least common responses ranged from *irresponsibility* to *working in strange conditions*.

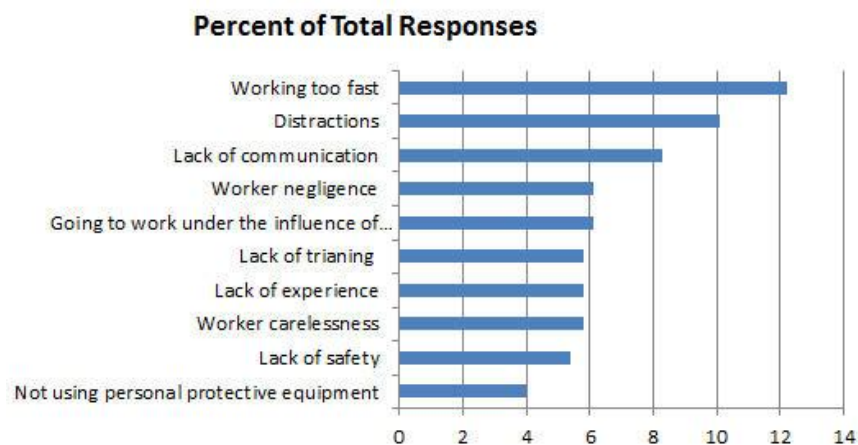


Figure 2: The 10 most common factors (out of 39 unique responses) relating to accidents among Hispanic workers according to Hispanic workers.

When comparing these responses to those reasons for accidents among Hispanic workers described in the review of literature, some differences were noticed. For example, one of the prevailing findings in the literature review was that immigrant workers were concentrated in the most hazardous jobs or are assigned to the most dangerous tasks. In this study, according to workers themselves, being assigned to dangerous tasks was number 14 on the list of things that contributed most to on-site accidents. In fact, it was mentioned by the Hispanic workers surveyed only a few times. It is interesting to note that being assigned to dangerous tasks was not even considered a cause of accidents by contractors, subcontractors, safety managers or superintendents. In the review of literature language ability was often listed as a possible factor for accidents. This seemed to be confirmed by both groups in this study as shown above.

Reducing Construction Accidents among Hispanic Construction Workers

General contractors, subcontractors, safety managers and site superintendents gave 13 unique responses to what steps could be taken to eliminate or reduce accidents among Hispanics on the job site. These ranged from *on-the-job training* to *analyzing job hazards* for each task. In order, the five most common remedies included the following: 1) *provide improved safety training* (41 percent of the point total of the weighted scoring system); 2) *improve communications* (17.9 percent); 3) *enforce rigid compliance with safety standards/personal protective equipment* (11.6 percent); 4) *to have bilingual workers or an interpreter on site* (10.5 percent); 5) *workers to improve English skills* (8.4 percent). The remaining 8 factors were not nearly as important to this group of respondents. They included the following: 6) *pay more attention to co-workers and supervisors*; 7) *honesty – do workers really understand instructions?*; 8) *encourage Hispanics to ask for clarification of assignments*; 9) *reside in the United States longer to better understand how things are done here*; 10) *Don't take so many risks*; 11) *Slow down – don't be in such a hurry*; 12) *need to provide adequate training materials in Spanish*; and 13) *analyze hazards for each task*. These factors received scores that ranged from a high of 2.1 percent down to 1 percent of the point total of the weighted scoring system.

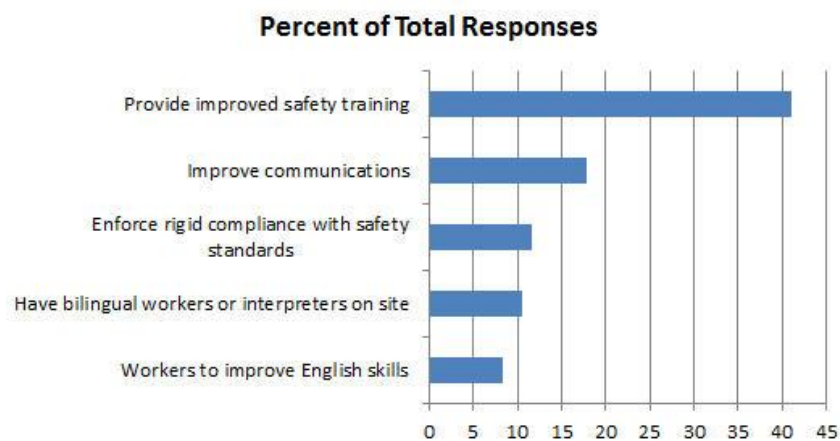


Figure 3: The 5 most important things (out of 13 unique responses) that can be done to eliminate accidents among Hispanic workers according to contractors, subcontractors and site managers.

Using the same scoring system, the 47 Hispanic workers responding to the survey did not necessarily agree with their bosses. More than 30 unique responses were given by workers and ranged from *paying attention on the job site* to *proper ventilation and lighting on the job site*. Only the top 7 responses received more than 5 percent of the point total of the weighted scoring system. In order, they included the following: 1) *pay attention on the job site* (14.8 percent); 2) *wear personal protective equipment* (13.2 percent); 3) *need to receive proper training* (11.7 percent); 4) *work with proper tools* (8.9 percent); 5) *obey safety regulations* (8.2 percent); 6) *maintain a clean job site* (7.4 percent), and 7) *improve communications* (6.6 percent). The next 15 responses, in order, included the following: *more focus*; *don't bring family problems to work*; *impose penalties for improper behavior*; *gain more experience*; *individual responsibility*; *don't work under time pressures*; *recognize job-site hazards*; *increase frequency of safety meetings*; *understand importance of protective equipment*; *eliminate distractions – e.g., cellphones, etc.*; *focus on the job*; *more emphasis in safety on the job site*; *emotional and physical preparation for work*; *be sure to know what and how to do the work*; and *no horseplay on the job site*. The remaining factors varied from *understanding your task* to *proper ventilation and lighting on the job site*.

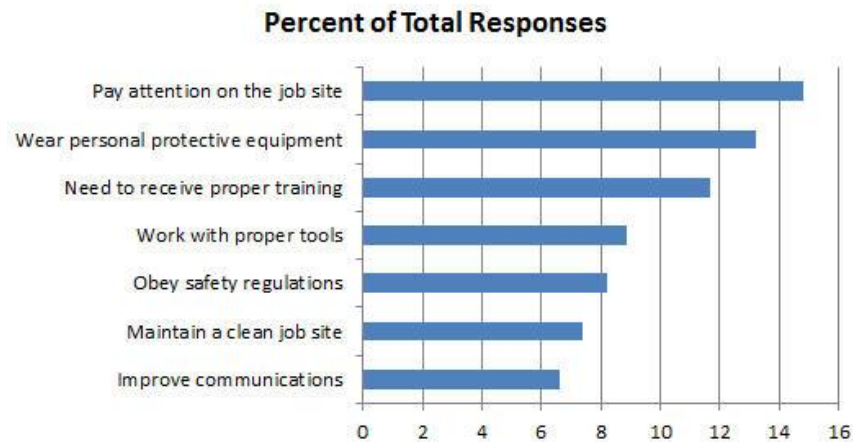


Figure 4: The 7 most important things (out of more than 30 unique responses) that can be done to eliminate accidents among Hispanic workers according to Hispanic workers.

Conclusions

The main causes of accidents among Hispanic construction workers identified in the review of literature included language barriers, poor work skills, and cultural traditions. The contractors, subcontractors, safety managers and superintendents responding to this study agreed that communication issues (language barriers) and poor work skills caused by lack of training, lack of attention to safety, and negligence were the most important factors contributing to job-site accidents among Hispanic construction workers. However, it is interesting to note that the Hispanic construction workers surveyed considered the most important factors contributing to construction accidents to be working too fast and being distracted while working. They did agree that poor communication and lack of language skills also contributed to accidents on the job site. Coming to work under the influence of alcohol or harmful drugs was also noted.

The most common recommendations identified from the review of literature to help reduce or eliminate the rate of construction accidents among Hispanic workers included provisions for educational and emotional needs of the workers. This includes on-site job training and safety training in the workers' native language. Additionally, emphasis was placed on the need for workers to understand the importance of safety and productive work in order to support and care for their families. In this study, general contractors, subcontractors, safety managers and superintendents identified three main factors to help eliminate or reduce accidents: job training, improved communications, and an emphasis on safety. Once again, these responses seem to reinforce the main arguments stated in the review of literature. With the predicted increase in Hispanic workers on construction sites in the United States, this topic of identifying causes of and working to reduce accidents among the work force is critical to our industry.

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