

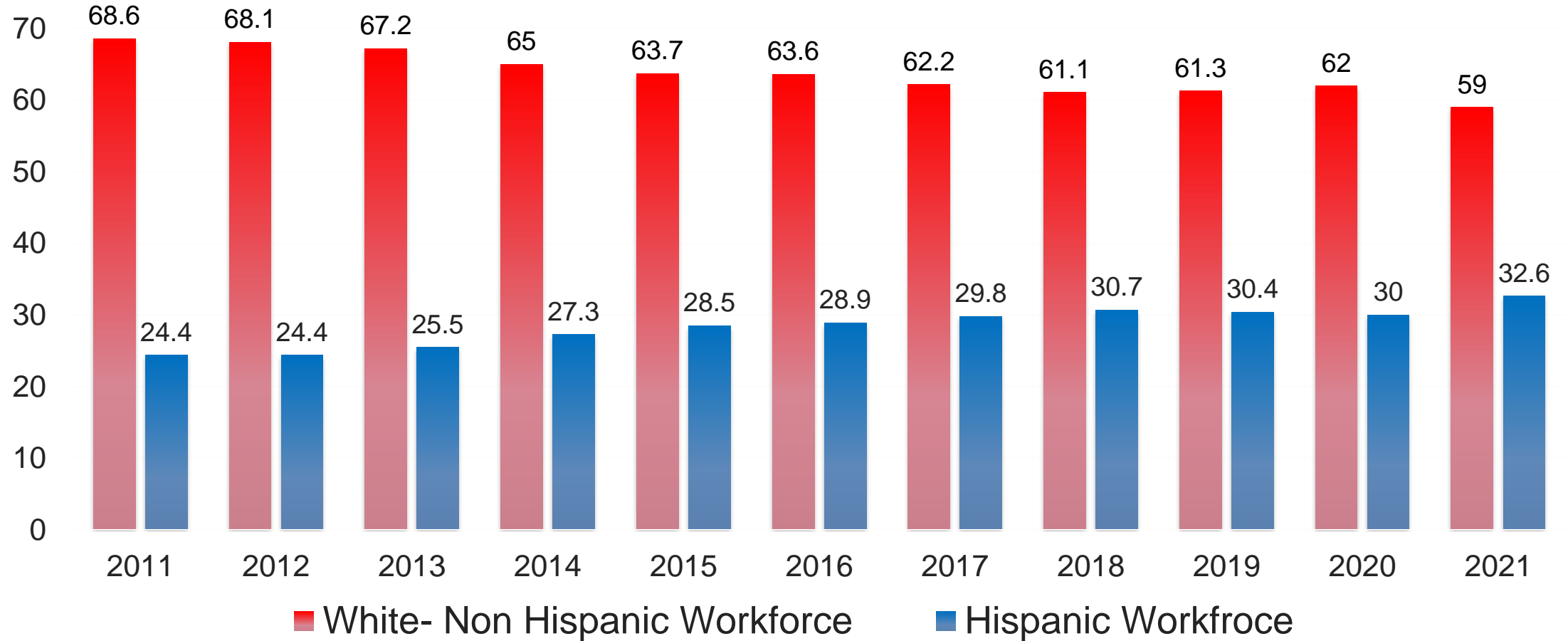
The Hispanic Workforce Perception



Ahmed Al-Bayati, PhD, PE
Civil and Architectural Engineering Dept.
Lawrence Technological University

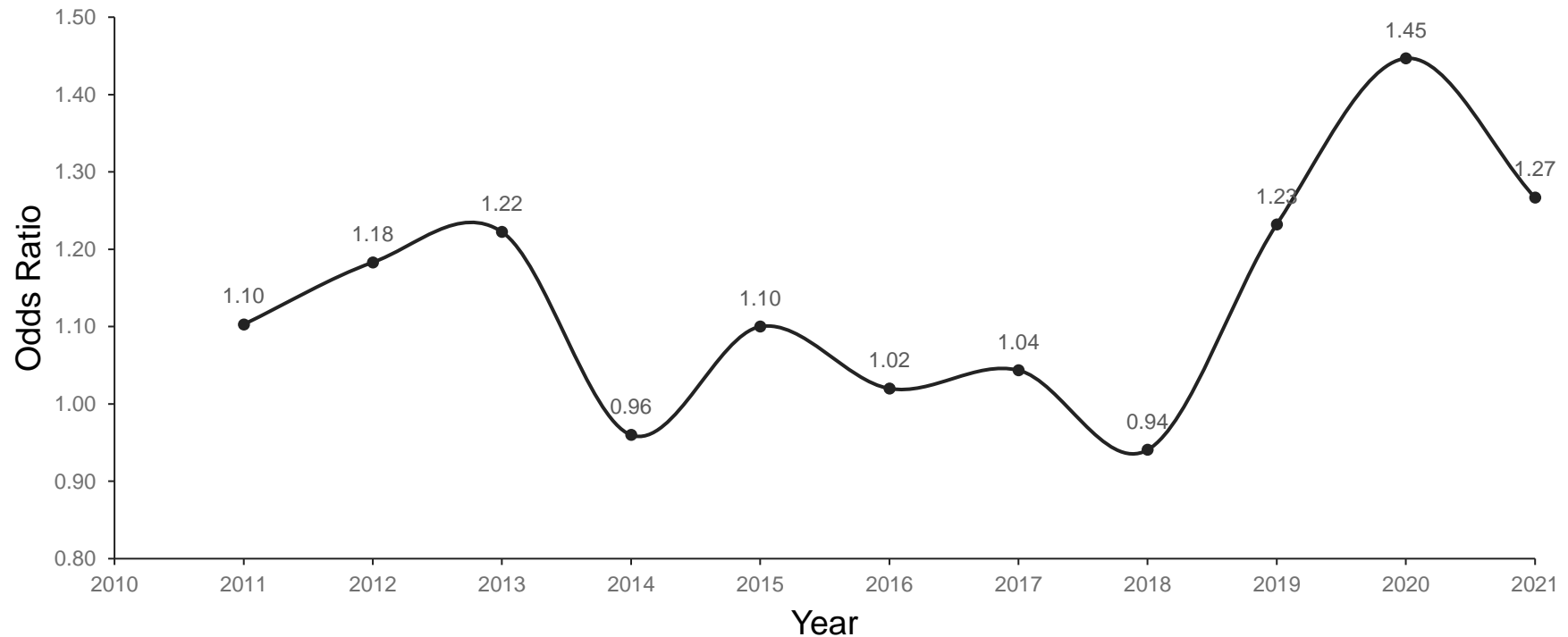


The Hispanic Workforce in The Construction Industry



Fatality Rates and Odd

- ❑ The fatality rate for Hispanic workers was 4.5 deaths per 100,000 FTE workers in 2020, up from 4.2 in 2019.
- ❑ In 2021, Hispanic workers had a fatality rate of 4.5 per 100,000 which was higher than the all-worker rate of 3.6.



Hispanic Workers' Perspectives

Managing Cultural Diversity at U.S. Construction Sites: Hispanic Workers' Perspectives

Ahmed Jalil Al-Bayati, Ph.D., P.E., M.ASCE¹; Osama Abudayyeh, Ph.D., P.E., M.ASCE²;
Tycho Fredericks, Ph.D.³; and Steven E. Butt, Ph.D.⁴

Abstract: Communication on construction sites is crucial for improving overall construction performance. Cultural clarity of communication between construction supervisors and Hispanic workers on U.S. construction sites, which impacts performance. In this study, Hispanic workers' perspectives regarding active cultural differences (ACD) were collected, and supervisors' perspectives and responses that were reported earlier. The results confirmed the existence of three active cultural differences: high power distance, collectivism, and uncertainty avoidance. Although the goal of the study was primarily to identify cultural differences, the results revealed additional important factors that affect Hispanic construction workers, such as the effectiveness of government agencies' regulations, workers' legal status, and reporting nonsevere injuries. Very few studies have focused on cultural diversity on U.S. construction sites. . DOI: [10.1061/\(ASCE\)CO.1943-7862.0001359](https://doi.org/10.1061/(ASCE)CO.1943-7862.0001359). © ASCE, Inc. *Journal of Civil Engineers*.



Charlotte, North Carolina 2016

Hispanic Workers' Perspectives

Managing Cultural Diversity at U.S. Construction Sites: Hispanic Workers' Perspectives

Ahmed Jalil Al-Bayati, Ph.D., P.E., M.ASCE¹; Osama Abudayyeh, Ph.D., P.E., M.ASCE²;
Tycho Fredericks, Ph.D.³; and Steven E. Butt, Ph.D.⁴

Abstract: Communication on construction sites is crucial for improving overall construction performance. Cultural clarity of communication between construction supervisors and Hispanic workers on U.S. construction sites, which impacts performance. In this study, Hispanic workers' perspectives regarding active cultural differences (ACD) were collected, and compared to supervisors' perspectives and responses that were reported earlier. The results confirmed the existence of three active cultural differences: high power distance, collectivism, and uncertainty avoidance. Although the goal of the study was primarily to identify cultural differences, the results revealed additional important factors that affect Hispanic construction workers, such as the effectiveness of government agencies' regulations, workers' legal status, and reporting nonsevere injuries. Very few studies have focused on cultural diversity on U.S. construction sites. . DOI: [10.1061/\(ASCE\)CO.1943-7862.0001359](https://doi.org/10.1061/(ASCE)CO.1943-7862.0001359). © 2016 American Society of Civil Engineers.



Charlotte, North Carolina 2016

Hispanic Workers' Perspectives

Hispanic workers feel insecure due to the following reasons:

- ❑ **Unfamiliarity with U.S. laws and regulations:** This was noted by participants, especially regarding OSHA regulations and its role.
- ❑ **Language barrier:** Hispanic workers who participated in the study expressed their frustration regarding the language barrier. They explained that the language barrier prevented them from discussing their needs and opinions with their supervisors and impeded their understanding of their supervisor's instructions. In addition, the interviews revealed the illiteracy status among the workers, which limits translating efforts.

Hispanic Workers' Perspectives

Hispanic workers feel insecure due to the following reasons:

- ❑ **Immigration status:** This was a common theme among all participants in this study. Almost half of all construction Hispanic workers were undocumented in 2010 (Johnson and Ostendorf 2010). Participants talked about how their immigration status creates the fear of speaking up against unsafe conditions and practices. One of the important rights that Hispanic workers believe they do not have, due to their legal status, is the right to file a complaint with OSHA and receive financial support if they were fired as a result of their complaint.

Hispanic Workers' Perspectives

Hispanic workers feel insecure due to the following reasons:

- ❑ **Economic status:** This was mentioned many times as a reason why Hispanic workers may accept unsafe tasks. Furthermore, focus group studies revealed that the majority of Hispanic construction workers who participated in the study did not have health insurance as a result of their economic status and work type (i.e., temporary workers). One of the participants said the following: “Hispanic workers do not go to the hospital; the reason is that they do not have insurance.” As a result, this status leads to a lack of reporting of non-severe injuries, which explains why the rates of nonfatal injuries among Hispanic workers are constantly lower than among Caucasian workers as reported by the Center for Construction Research and Training (CPWR 2013).

Table 3. A Sample of the Focus Groups' Feedback

Aspect	Feedback—reported as written in the survey
Unfamiliarity with U.S. laws and OSHA	<ul style="list-style-type: none">• I assume that OSHA always inspects big size projects not the small ones.• I did not know about this organization (i.e., OSHA), and I have been here for 18 years.• I knew about OSHA but did not know we have the right to make a claim.
Language barrier	<ul style="list-style-type: none">• Translating instructions to Spanish would not solve the problem because the language barrier would still be present.• We feel less than others because we cannot express our feelings and concerns as a result to language barrier.• The problem is that some of us do not speak any English, and we will do the job even if we do not know exactly what we are doing.
Immigration status	<ul style="list-style-type: none">• The problem is that sometimes I am afraid because of my immigration status. Also, if I got fired because I speak up against unsafe condition, there is nothing to fight for since I have no social security number.• When I asked about my rights, my supervisor said “None, you do not have any rights because you are undocumented.”• Immigration status would definitely affect our mindset in the workplace.
The behavior of some employers	<ul style="list-style-type: none">• “You do not have any rights because you are undocumented.”• The problem is that they do not provide us with safety equipment because we are only hired for a day.• I have rejected an unsafe task before and the supervisor told me If I do not want to do it, then leave and go home.
High power distance and collectivism	<ul style="list-style-type: none">• When examiner asked what they will do when they think the instructions are not enough, one said “I would talk to someone that has experience doing that type of work.” He will not ask his supervisor for clarification.• We are used to never saying no, we always try to do everything.• I think that working with family helps to keep an eye on each other.• Working with family can cause more accidents because you can get asked to do more work or faster, this will eventually cause more accident.
Uncertainty avoidance	<ul style="list-style-type: none">• I prefer detailed instructions, that way I can do the job correctly.• General instructions do not work because they can miss important details.• I do not want to do the job wrong, so I prefer if my supervisor shows me how to do the work step by step first. After that they can let me work on my own.

Hispanic Fatal Injuries – FACE Report

Fatal injuries among Hispanic workers in the U.S. construction industry: Findings from FACE investigation reports

Ahmed Jalil Al-Bayati, * David Daniel York

Kimmel School of Construction Management, Western Carolina Univ., Cullowhee, NC 28723, United States



ARTICLE INFO

Article history:

Received 3 April 2018

Received in revised form 30 June 2018

Accepted 12 September 2018

Available online 04 October 2018

ABSTRACT

Introduction: Identifying and understanding the characteristics of workplace accidents can provide vital information required to clarify their causes and prevent similar accidents from happening in the future. The Hispanic workforce represents a significant segment of the U.S. construction labor force that is projected to continue increasing in population. The government statistical data show higher rates of fatalities among Hispanic workers when compared to other ethnic groups. *Method:* This study aims to provide details about the trends of fatal injuries among Hispanic workers. The study examined 92 government investigation reports to reveal the general trends, then an examination of fatal fall injuries within the study sample was conducted since falling is the predominant cause of fatal injuries. *Results:* The findings suggest differences in accident characteristics between Hispanic workers and all workers, which could indicate a need for different interventions to improve the overall site safety. The study also revealed the dire need to propose revised investigation procedures that would help identify the root causes of accidents, which in turn leads to better recommendations and interventions.

© 2018 National Safety Council and Elsevier Ltd. All rights reserved.

Hispanic Fatal Injuries – FACE Reports

The purpose is to compare the characteristics of fatal injuries among Hispanic workers with the characteristics among all workers that have been reported in previous studies. The authors have followed the methods utilized in previous studies such as Huang and Hinze (2003), Kang et al. (2017), and Dong et al. (2017b) which investigated fatal trends among all workers. Accordingly, this study compares trends of fatalities between Hispanic workers and all other construction workers. The comparison aims to assist industry professionals in identifying the areas where Hispanic workers face higher rates of fatalities which could be further evaluated to help identify the root causes of accidents.

Hispanic Fatal Injuries – FACE Reports

Characteristics of Fall Fatal Injuries among Hispanic Workers

Characteristic	This Study (Hispanic) (%)	Kang et al. (2017) (All) (%)	Huang and Hinze (2003) (All) (%)
SIC code			
General contractors	67.5	19	N/A
specialty trade contractors	32.5	75.4	Roughly 80
Heavy Construction	0	5.5	N/A

Fatalities among Hispanic workers in general contractors' workplaces are significantly higher than all workers where their percentage is higher in specialty trade contractors' workplaces.

Hispanic Fatal Injuries – FACE Reports

Table 5. Characteristics of Fall Fatal Injuries among Hispanic Workers

Characteristic	This Study (Hispanic) (%)	Kang et al. (2017) (All) (%)	Huang and Hinze (2003) (All) (%)
Accident location			
Roof	62.5	24.7	28.4
Scaffold	20	14.3	13
Ladder	12.5	16	11.3
Fall with structure	2.5	16.4	19.3
Aerial lift	2.5	5.3	3.2
Others	0	23.3	24.8

Most of the fall fatalities among Hispanic workers were from the roof. Roof fall fatalities represent 62.5% among Hispanic workers, while represents less than 30% among all workers.

Hispanic Fatal Injuries – FACE Report

Victims' and Employers' Characteristics

Occupation	This Study (Hispanic) (%)	Dong et al. (2017b) (All) (%)
General Labor	52.6	24.2
Structural Metal Workers	0	7.9
Supervisor	0	12.7
Carpenters	12.9	7.1
Roofers	10.8	5.3
Equipment Operator	11.8	0
Others	24.7	42.8

The study found that a higher percentage of Hispanic victims were general labors (52.6%), while this percentage drop down to 24.2% among all workers.

Hispanic Fatal Injuries – FACE Reports

Victims' and Employers' Characteristics

Occupation	This Study (Hispanic) (%)	Dong et al. (2017b) (All) (%)
General Labor	52.6	24.2
Structural Metal Workers	0	7.9
Supervisor	0	12.7
Carpenters	12.9	7.1
Roofers	10.8	5.3
Equipment Operator	11.8	0
Others	24.7	42.8

The study found that a higher percentage of Hispanic victims were general labors (52.6%), while this percentage drop down to 24.2% among all workers.

Hispanic Fatal Injuries – FACE Reports

Frequency of Fatal Injuries' Direct Cause

Direct Cause	This Study (Hispanic) (%)	Kang et al. (2017) (All) (%)	Huang and Hinze (2003) (All) (%)
Fall	43.0	44.6	36.3
Struck by	39.8	22.8	24.3
Caught in or between	7.5	11.1	11.6
Electrocution	5.4	6.8	13.4
Others	3.4	14.6	14.5

The percentage of struck-by fatalities among Hispanic workers is significantly higher than the percentage of all worker.

Hispanic Fatal Injuries – FACE Reports

Frequency of Fatal Injuries' Direct Cause

Direct Cause	This Study (Hispanic) (%)	Kang et al. (2017) (All) (%)	Huang and Hinze (2003) (All) (%)
Fall	43.0	44.6	36.3
Struck by	39.8	22.8	24.3
Caught in or between	7.5	11.1	11.6
Electrocution	5.4	6.8	13.4
Others	3.4	14.6	14.5

This study supports the claim that falls are a leading cause of fatal injuries, with more than 40% of the study sample being the result of a fall. The percentage of struck-by fatalities among Hispanic workers is significantly higher than the percentage of all worker.

Hispanic Fatal Injuries – FACE Reports

The authors have noticed that the information provided in the FACE investigation reports lacks consistency in both format and content. Moreover, the indirect wording used in the reports often makes it challenging to identify contributing factors and heightens the probability of misapprehensions. Examples of inconsistencies found in the provided information include a report that does not mention anything about the employers' safety and training programs, as well as another report that states two different ages for the same decedent [see FACE (2017c) and FACE (2017d)].

OSH Safety Research – Social Inequity

Social equity refers to the fair distribution of resources, opportunities, and protections for all construction workers, regardless of their race, ethnicity, or socioeconomic status. Hispanic workers are a hardly reached population due to the fact that OSH professionals and organizations have not developed the capacity to effectively reach them (Flynn et al., 2021).

- **Social equity in construction related research helps identify and address the inequalities and barriers that certain groups of workers (e.g., Hispanic construction workers) may face in terms of accessing adequate training, resources, and support to ensure their safety on the job.**

OSH Safety Research – Social Inequity



Contents lists available at [ScienceDirect](#)

Journal of Safety Research

journal homepage: www.elsevier.com/locate/jsr



PPE non-compliance among construction workers: An assessment of contributing factors utilizing fuzzy theory

Ahmed Jalil Al-Bayati^a, Andrew T. Rener^b, Michael P. Listello^c, Mamdouh Mohamed^d

^aThe Founding Director of the Construction Safety Research Center, Dept. of Civil and Architectural Engineering, Lawrence Technological Univ., 21000 West Ten Mile Rd., Southfield, MI 48075, United States

^bThe Bouma Corporation and Managing Member of Centerline Prefab, LLC, 4101 Roger B Chaffee Mem. Blvd. SE, Grand Rapids, MI 49548, United States

^cSafety and Health, DTE Energy - Major Enterprise Projects, 3500 East Front St., Monroe, MI 48161, United States

^dDept. of Civil and Architectural Engineering, Lawrence Technological Univ., 21000 West Ten Mile Rd., Southfield, MI 48075, United States

OSH Safety Research – Social Inequity

A research study has been conducted to highlight the perception of Mexican workers in the United States regarding PPE non-compliance factors and how excluding their perceptions may produce misleading findings and recommendations.

- ❑ The fall fatality reports that have been investigated by Al-Bayati and York (2019) suggest that 85% of victims did not have their required PPE on.**

OSH Safety Research – Social Inequity

A research study has been conducted to highlight the perception of Mexican workers in the United States regarding PPE non-compliance factors and how excluding their perceptions may produce misleading findings and recommendations.

- ❑ The survey the was used in PPE non- compliance study was translated from English to Spanish. Data were collected through collaboration with the Consulate General of Mexico in Detroit as well as visiting a construction site.**

OSH Safety Research – Social Inequity

The Score and Ranking Differences between Mexican and Non-Hispanic workers

Factor	Mexican (n = 40)		Non-Hispanic (n = 52)		P-Value
	Score	Ranking	Score	Ranking	
Lack of Safety Training	0.62	1	0.52	9	0.12
Lack of Management Support	0.58	8	0.46	14	0.04
Lack of Safety Rules and Regulations	0.60	5	0.52	11	0.19
PPE Availability and Accessibility	0.61	3	0.51	12	0.11
Cultural and Language Barriers	0.60	6	0.46	16	0.02

OSH Safety Research – Social Inequity

- ❑ There is a need to propose a customized intervention to improve PPE compliance among Hispanic workers. The high proportion of PPE non-compliance among Hispanic workers may be due to a lack of awareness regarding their perceptions and cultural values**
- ❑ Language and cultural barriers can pose significant challenges to intercultural interactions, resulting in misunderstandings, conflicts, social isolation, and, most importantly, an increased probability of work-related injuries.**

OSH Safety Research – Social Inequity

- ❑ OSH research that does not reflect the workforce diversity may not address the unique challenges and needs of the Hispanic workforce.**
- ❑ The current underrepresentation of Hispanic workers in safety related research studies hinders our understanding of their unique needs and concerns, making it difficult to effective effective interventions. Therefore, future studies must prioritize the fair representation of Hispanic workers to ensure that the findings are reliable, and the implemented interventions are effective.**

Special Thanks to the CSRC's Founding Members

The CSRC exists through your outstanding safety commitment and generous support



Thank You

 Dr. Ahmed Al-Bayati

 248.204.2586

 aalbayati@ltu.edu

 ltu.edu

**Lawrence
Technological
University**

