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**Pilot-testing the Safety Climate Assessment
Tool (S-CAT^{SC}) for Small Hispanic
Construction Firms**

Consultant Agreement:
No. 3001-903-10

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ABSTRACT

Hispanic workers employed in small businesses may be less likely to experience a strong safety climate on construction worksites, and it may account for their disproportionate injury rates. In order to design effective safety interventions targeted at small construction businesses, it is essential to be able to capture the realities experienced by this population accurately. The overall g

OBJECTIVES

The overall goal of this study was to translate into Spanish and pilot-test the S-CAT^{SC} among a population of small Hispanic construction contractors and workers. The aim was to develop a culturally adapted tra

Study Population

The study was conducted in two locations - Pittsburgh, PA and Raleigh, NC. The study participants were a convenience sample consisting of 1) 30 Hispanic construction workers employed in small construction businesses owned by Hispanics and 2) 15 Hispanic owners of small construction businesses.

All participants reported having no other occupation or job different than those related to the construction industry. The interviews were conducted during work hours. Therefore, the owners authorized researchers to get access to the construction sites. The Institutional Review Board from the Indiana University of Pennsylvania and Western Carolina University approved all study protocols, and each participant provided informed consent. Participating workers and owners received a gift card of \$20.

Fifteen small construction business' owners, 23 construction workers, 3 supervisors, and 3 lead workers from 15 small construction firms participated in the cognitive interviews. Four construction firms employed less than 10 employees, eight between 10 to 20 employees, and three between 21 to 50 employees. They represented diverse construction trades including roofing, concrete and remodeling, concrete foundation and structure, electrical installations, and painting (Table 1). Participants' average age was 36 years old (range 18 - 54), work experience in the construction industry ranged from 3 to 34 years (mean = 11 years), and, on average, they had lived in the United States for 15 years (range 2 – 29) (Table 1). All participants reported that Spanish was their native language and construction as their only business.

Table 1. Characteristics of the small construction businesses

	n = 15
Company size	
Less than 10 employees	4
10 - 20 employees	8
21 - 50 employees	3
Construction trade	
Electrical installations	2
Painting	2
Poured concrete foundation and structure	2
R	

Table 2. Demographic characteristics of participants

Participants	n= 45		Age (mean)	Years in construction (mean)	Years living in USA (mean)
	Male	Female			

CAT^{SC} items rather than evaluating safety conditions in their current work environment. Once the participant demonstrated confidence with the process, the interviewer followed the protocol based on an interview guide designed for the study.

Participants were invited to review the S-CAT^{SC} using either a tablet-based version or a hard copy according to their preferences. They were asked to read each item out loud and talk about their understanding of the meaning of each item, ambiguities, difficulties in identifying what information was needed to respond to the item, as well as the response scale. In the case that the participant preferred to read silently, the researchers waited until she/he completed the reading to ask for comments; when the participant appeared to have no comments, the researcher read each item aloud and initiated the discussion by using probing questions. When group interviews were carried out, the interviewer read aloud item by item and used open probing questions to promote participants' discussion.

The process of interviewing was conducted in three rounds. In addition to audio recording, notes were taken to document general impressions and any issues such as confusion, contradictions, ambiguity, and participant's reluctance to share thoughts, or questions that the respondent had. In the Raleigh (NC) area, three workers (from different businesses) refused to be audio recorded while in the Pittsburgh (PA) four workers, all from the same company, did it. When the respondent did not authorize audio recording the interview, detailed notes were taken. After each interview round the research team independently listened to the audio recordings, met to discuss overall problems identified, and made suggestions about changes in the translation prompted by the findings, and modified the Spanish version of the S-CAT^{SC}

Review from Hispanic safety experts

The Spanish version of the S-CAT^{SC} tool was assee ,

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Item by item findings

Leading Indicator # 1. Demonstrates Management Commitment to Safety

My Company...	Comments to the Spanish version
<p>1. Has safety policies and procedures and shares them with all employees</p>	<p>The term “safety policies” translates into Spanish as “políticas de seguridad.” However, this term created confusion among participants because they were not familiar with it and also there was a tendency to define it in relation to politics.</p> <p>For the second/third round of interviews, we tested the term “principios de seguridad” (safety principles) and “lineamientos de seguridad” (safety guidelines) which were better understood and accepted.</p> <p>NOTE: The word ‘lineamientos’ was used to translate</p>

DEMONSTRATES MANAGEMENT COMMITMENT TO SAFETY

5. Provides appropriate PPE for all employees on every job site	The term personal protective equipment (PPE) was not well known among participants, especially those in companies with less than 20 workers. Thus, we suggest adding prompts in parentheses such as hard hats, respirators, safety boots, and safety glasses. NOTE: This change was incorporated into the translated Spanish version.
6. Recognizes employees for obeying safety rules and wearing proper PPE on the job site	No issues were identified with this item.
7. Identifies and takes steps to correct hazardous situations	No issues were identified with this item.
8. Collects information about and follows up on injuries and incidents with managers, supervisors, and employees	For several participants, the hierarchy of managers, supervisors, and employees is not representative of the organizational structure in small constructions businesses. In most of these companies, often the owner acts as a manager and a supervisor. Therefore, it was suggested replacing “managers and supervisors” with “owner” or “boss.” NOTE: This change was not incorporated into the translated Spanish version.
9. Helps injured workers so they can return to work	No issues were identified with this item.

Leading Indicator # 2. Promotes and Incorporates Safety as a Value

My Company...	Comments to the Spanish version
1. Holds regular meetings with employees to discuss safety	No issues were identified with this item.
2. Never compromises safety to increaAS	

<p>3. Uses incident and near miss information to improve safety</p>	<p>In the safety field, the technical term to translate “near misses” is “cuasi-accidentes.” However, the word “cuasi” was not clearly understood for participants. Thus, we preferred to use the word “casi” which is more accepted among people with no safety background.</p> <p>NOTE: This change was incorporated into the translated Spanish version.</p> <p>For some participants, there was no difference between incidents and near misses. Many described incidents like events that almost happened or those without negative health consequences.</p> <p>Suggestion: replace the word “incident” with “injuries”</p> <p>NOTE: This change was not incorporated into the translated Spanish version.</p>
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Leading Indicator # 3. Ensures Accountability at All Levels

My Company...	Comments to the Spanish version
<p>1. Discusses safety with everyone in the company and reinforces expectations daily</p>	<p>Although no issues were identified with this item, some participants</p>

Leading Indicator # 5. Empowers and Involves Employees

My Company...	Comments to the Spanish version
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3. Encourages the project owner

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