

Do Workers in Different Construction Trades Perceive Safety Climate the Same Way?

Measurement equivalence and mean comparisons of a safety climate measure across construction trades

Konstantin P. Cigularov, Stephanie Adams, Janie L. Gittleman, Elizabeth Haile, Peter Y. Chen. Accident Analysis and Prevention, March 2013.

Overview

The use of safety climate measures for needs assessment and interventions has become increasingly popular. Typically, safety climate scores are determined by asking workers to evaluate statements like “the general contractor’s safety personnel step in to stop unsafe operations,” or “my foreman thinks that safety is more important than productivity.” But workers in different trades encounter very different levels of risk and characteristic hazards: do they all respond in the same way to a standard safety climate survey instrument? Thus, it is important to ensure that respondents use similar frames of reference while completing a safety climate measure. Researchers analyzed safety climate surveys submitted by 4,725 workers employed in 10 different construction trades on a single large construction project in Las Vegas, Nev. They found that although the different trades reported on average significantly different levels of safety climate, they used the same frame of reference when responding to the measure.

Key Findings

- The researchers found strong support for the measurement equivalence of the safety climate measure under study across the 10 trades. Safety climate items were designed to measure worker perceptions of safety practices on the job site, management commitment to safety (general contractor), supervisor support for safety (foreman), and levels of work pressure. The findings suggest that construction workers in these trades used a similar frame of reference when responding to the safety climate items, employed the response scale in a similar fashion, and demonstrated no methodical biases.
- Despite the demonstrated measurement equivalence, researchers found significant differences in mean safety climate scores reported by the different trades. After controlling for age, experience, and ethnicity, plumbers/pipefitters, electricians, and sheet metal workers reported the least favorable perceptions of top management’s commitment to safety. Painters reported the most positive perceptions of management’s commitment to safety, but along with carpenters reported the highest perceived levels of work pressure.

For more information, contact:

Konstantin P. Cigularov: kcigular@odu.edu

See abstract:

<http://www.sciencedirect.com/science/article/pii/S0001457512003818>

©2013, CPWR – The Center for Construction Research and Training. CPWR, the research and training arm of the Building and Construction Trades Dept., AFL-CIO, is uniquely situated to serve construction workers, contractors, practitioners, and the scientific community. This card was made possible by a cooperative agreement with the National Institute for Occupational Safety and Health, NIOSH (OH009762). The contents are solely the responsibility of the authors and do not necessarily represent the official views of NIOSH.



**THE CENTER FOR CONSTRUCTION
RESEARCH AND TRAINING**

WWW.CPWR.COM