

Assessing Leading Indicators of Safety Performance Through an Organizational Survey

Associations between a safety prequalification survey and worker safety experiences on commercial construction sites

Jack T. Dennerlein, Daniel Weinstein, Whitney Huynh, Jamie Tessler, Lauren Bigger, Lauren Murphy and Justin Majourides. American Journal of Industrial Medicine, 2020.

Overview

Prequalification processes in construction bidding increasingly measure subcontractors' safety performance to minimize the risk of workplace accidents and injuries. While injury records and a firm's experience modification rate typically assess safety performance, these lagging indicators have limitations. As a result, contractors, construction management companies, and project owners are increasingly using surveys of leading indicators—including policies, programs, and practices that monitor, control and/or eliminate hazards—to evaluate a bidder's safety performance. However, a recent study found that these prequalification surveys typically lack validation and assessments of essential elements of safety systems. As part of its Assessment of Contractor Safety (ACES) project, the research team designed and tested an organizational survey of subcontractors' leading indicators of safety performance. It was administered to 43 subcontractors on 24 job sites; there was a separate survey to capture the safety climate and injury rates of 1426 workers on these sites.

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See abstract:

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Key Findings

- Work sites with subcontractors that had higher ACES scores were associated with higher safety climate scores and lower injury rates.
- Construction work sites appear to play a more important role in improving safety outcomes than individual subcontracting companies, suggesting that project characteristics have a greater impact on worker safety and health.
- Results revealed no significant associations between ACES scores and either worker safety climate scores or injury rates within a subcontracting company, possibly due to limitations in sample size on a company level.
- The study's results support the idea that construction projects that engage in prequalification processes and select subcontractors with higher scores (such as on the ACES survey) can help improve the safety climate and reduce injury rates on a job site, and the results are also a step towards fully understanding and validating prequalification processes.



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