Conceptualizing safety climate in the U.S. construction industry

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1. Introduction

Much attention has been given to the U.S. construction industry due to the number of fatalities and injuries sustained by its workers each year. At the same time, safety climate has been shown in numerous meta-analyses to be a leading indicator of accidents and injuries (Beus, Payne, Bergman, & Arthur, 2010; Christian, Bradley, Wallace, & Burke, 2009). Safety climate measures workers' perception of the priority and value given to safety by their organization at one point in time, (Huang, Ho, Smith, & Chen, 2006; Zohar, 1980), such as injury frequency (Johnson, 2007) and levels of under-reporting (Probst, Brubaker, & Barsotti, 2008).

The primary aim of this preliminary study was to understand the nature and impact of safety in construction in order to inform the creation of a construction-specific safety climate measurement tool. Measuring safety climate in the construction industry is complex and has not received much conceptual attention in the safety climate literature. Construction workers are largely transient and independent, and worksites consist of numerous small employers (Veazie, Landen, Bender, & Amandus, 1994). Up to this point, most studies addressing safety climate in construction have treated the organizational layers on worksites as similar to any other industry. It is important to determine the ways in which construction workers, as temporary workers who move from worksite to worksite, would group themselves in terms of safety climate groups. For example, it may be that a general contractor on a worksite or a union is influencing construction workers' safety perception more so than any other group. This study highlights the need for a safety climate measure specific to construction that addresses the numerous dimensions of the construction site.

2. Methods

Six focus groups were conducted in New England during the spring and summer of 2013 to collect data from construction workers regarding their understanding of safety in the construction industry. Each focus group consisted of 6-11 workers who were involved in different trades and unions. A trained moderator led each audio-recorded 60-minute session using a standardized script. Grounded theory methods were used to analyze all

qualitative data collected because they provide systematic, but flexible, guidelines to build theories "grounded" in the data themselves (Charmaz, 2004). This project was funded by a grant from the Harvard School of Public Health's NIOSH-funded Education and Research Center for Occupational Safety and Health.

3. Results

The most common theme in all focus groups was workers seem to have a professional (trade-specific) ethos that they use to choose how they behave on a worksite. They have learned about safety through apprenticeships in their specified trade; from trainings and from interactions with their coworkers. Once construction workers finish their apprenticeships, they must abide by the rules and policies of the subcontractors employing them, which are also trade-specific. Yet, workers are also exposed to general contractor-specific safety trainings on worksites that they stated are valuable in making workers aware of safety. While these preliminary qualitative findings suggest that workers keep hold of a professional ethos as they move from worksite to worksite, they are also being exposed to safety policies from general contractors, and the influence of each safety component on workers' safety climate perceptions is not well understood.

4. Discussion and Conclusion

We examined how individual workers form safety climate perceptions within the context of construction sites. It is particularly necessary to examine this issue in depth because the work environment for construction workers is constantly changing. Workers usually do not work with the same coworkers and are not supervised by the same foreman, and when workers move from one worksite to the next, the general contractor overseeing a particular construction project changes. Therefore, the safety knowledge, skills, and messages that are communicated – either informally through social interactions or formally through trainings, toolbox talks, and written safety policies – may substantially differ depending on an individual's work group, and this affects how safety climate will be measured in the construction industry.

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