



The impact of job control on employee perception of management commitment to safety



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ABSTRACT

Background: Employees self-reporting low job control may perceive management as not being committed to employee safety.

Objective: Assess the relationship between self-reported job control and management commitment to safety while controlling for categorical variables.

Method: A 31-item survey was used in a cross-sectional study to assess the relationship between self-reported job control scores (JCS) and management commitment to safety scores (MCS). Descriptive statistics (means and frequencies), and an ANACOVA (analysis of covariance) were performed on a saturated model.

Results: Study had 71 percent response rate. Results indicate a statistically significant association between MCS and JCS when controlling for job position [$F(5, 690) = 206.97, p < 0.0001, \text{adjusted } R\text{-square} = 0.60$].

Conclusion: Employees with low job control have poor perceptions of management's commitment to safety when controlling for job position.

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1. Introduction

Construction work is a hazardous occupation in the United States (Schoenfisch et al., 2010; Waehrer et al., 2007; Zohar, 2010). Construction workers sustain various injury types with different degrees of severity. Work-related injuries and illnesses disproportionately affect the construction industry (Waehrer et al., 2007), causing adverse consequences for the injured employee, the employer, and the general population (Brewer, 2007). Occupational fatalities cost the United States' construction industry more than ten billion US dollars during a four year period from 1999 to 2002 (NIOSH, 2013).

Construction industry injury prevention programs are developed and implemented to mitigate employee injuries. As Brewer illustrates, construction injury prevention programs are implemented to protect employees, reduce adverse work injury consequences, manage cost, and meet regulatory requirements

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(Brewer, 2007). Lagging indicators, which are statistics from past injuries or incidents, such as fatality and injury rates, were historically used to design and implement injury prevention programs; however, the construction industry shifted safety focus from lagging to leading indicators. Leading indicators are statistics used to predict future incidents that may cause an injury or illness; they provide a more current organizational snapshot of safety, while focusing on human, managerial, and organization factors that may lead to an incident (Flinn et al., 2000).

Safety climate surveys are considered a leading indicator. Safety Climate is a shared perception of safety within an organization, and examines work practices and policies imposed on employees (Yule, 2003). Safety climate begins with an employee's perception but can become a shared perception among co-workers (Zohar, 2010). Therefore, an individual's perception of safety climate can materialize into a group-level perception. The emergence of individual perception of safety climate into a shared perception occurs through supervisory leadership and symbolic interactionism (Zohar, 2010). Essentially, employees will seek to understand their work environment (e.g. how important is safety), and will find their answer through co-worker interactions and observations of

workplace procedures, practices and events (Zohar, 2010). Employees will often look to management for safety cues (Zohar, 2010).

Management commitment, the most important construct of safety climate, measures employee perception of management's behavior and attitude toward safety. Through management's actions, behaviors, and communication (aspects of management commitment), employees begin to form a perception of 'what is important' to their work organization, and determine their safety citizenship (Employee participation in activities aimed at improving workplace safety). Thus, employees will perceive safety as a priority if supervisors not only communicate the importance of safety behaviors, practices, and procedures, but also allow the employee to allocate time for safety citizenship (e.g. behavior based safety observation programs, safety inspections, etc).

Management commitment to safety affects employee safety citizenship, safety performance, and injury rates (Michael et al., 2005). Bailey (1989) reported perception of management commitment among employees was positive in plants that had low injury rates. Additionally, Bailey (1989) reported perception of management commitment among employees was negative in plants that had high injury rates (O'Toole, 2002). Simonds and Shafari-Sahrai (1977) reported injury frequency rates were lower in companies that had upper management involvement in workplace safety (O'Toole, 2002). Parker et al. report that when management coach their employees and show compassion, employees will engage in working safely (e.g. participate in safety activities).

A lack of management commitment to safety might be perceived by employees if they are not allotted time for safety citizenship. It should be noted that job demands can affect employee safety citizenship; however, the design of work can provide employees with opportunity to prevent or manage job demands, such as in the form of job control (Turner et al., 2012). Job control is an employee's capacity to control work tasks, work environment, and work task outcomes (Snyder et al., 2008). Job control is important when discussing safety citizenship, as employees must allocate time to participate in safety activities. High job control is correlated with positive safety citizenship, or in other words, high employee involvement in activities aimed at improving workplace safety (Snyder et al., 2008). High job demand and low job control are associated with negative or low safety citizenship (Turner et al., 2012).

Job control is a predictor of employees safely working when management shows commitment to employee safety (Parker et al., 2001). Literature suggests that employee safety citizenship can be increased when managers show commitment and allow employees to have more job control (also known as job autonomy in literature). Based upon literature, we can ask the following: if employees have low job control, will they have a poor perception of management commitment to safety? For example, if an employee's schedule is restrictive and they cannot allocate time for safety activities, they may be more likely to perceive that management isn't committed to employee safety. When employees have poor perceptions of management commitment they may be less likely to participate in safety activities, their safety performance may decline, and they may experience higher injury rates (Michael et al., 2005).

Few studies have examined the relationship between job control and management commitment to safety, despite literature demonstrating a positive relationship between job control and management commitment, and the relationship between job control and outcomes such as employees working safely and employees participating in safety activities (Turner et al., 2012; Parker et al., 2001). This study uses a safety climate survey to capture an employee perception of management commitment and self-reported job control within the construction industry. This study adds crucial knowledge to the construction safety literature by

evaluating leading indicator variables. Of great importance to public health, this study aids environmental, health, and safety professionals as they plan and implement injury prevention programs, to prevent injuries to construction workers. The objectives of this study include the following:

- (1) Assess the relationship between self-reported job control and management commitment to safety.
- (2) Analyze whether the relationship between job control and management commitment are affected by demographic variables.

We hypothesize that:

- (1) Self-reported job control and perceptions of management commitment to safety will be positively related and that demographic variables will not affect the relationship. For example, low job control employees will be more likely to have an unfavorable perception of management commitment to safety.

2. Methods

2.1. Instrument

This exploratory cross-sectional study used a 38-item employee perception survey to examine the impact job control has on employee perception of management commitment to safety and general safety climate. The survey measured (1) management commitment to safety (15 questions adapted from the Western Australian Mining Industry Safety Behavior Survey (MOSHAB, 2002)) and (2) job control (16 questions adapted from the Control Scale listed in the NIOSH Generic Job Stress Questionnaire (NIOSH, 1991)) as shown in Table 1. The reliability and psychometric properties of the survey instrument have not been tested. Study participants could respond to each survey question with the following responses: (a) strongly disagree, (b) disagree, (c) neutral, (d) agree, and (e) strongly agree. The survey included the following demographic information: (a) age, (b) sex, (c) education level, (d) region of origin, (e) job position, (f) years worked in construction industry, and (g) years worked with company. Age was divided age into four categories: (1) ≤ 24 , (2) 25–34, (3) 35–49, and (4) ≥ 50 . Five categories for education were included: (1) some high school, (2) high school or GED diploma, (3) some college, (4) college degree, and (5) graduate degree. Job positions are categorized based on the Engineering, Procurement, and Construction (EPC) Company's hierarchical structure. Five categories were included for job position: (1) laborer/tradesperson, (2) foreman, (3) superintendent/supervisor, (4) technical support/engineering/HSE/quality, and (5) construction management/project management. Region of origin options included: (1) Canada, (2) United States, (3) Central America, (4) South America, (5) Africa, (6) Western Europe, (7) Eastern Europe, (8) Asia Pacific, and (9) Australia. Options for years worked in the construction industry and years worked with company both included: (1) < 1 , (2) 1–5, (3) 6–10, (4) 11–15, and (5) ≥ 16 .

2.2. Inclusion and exclusion criteria

Inclusion criteria for this study were: (1) Individual employed with the EPC Company, (2) Individual able to read and comprehend the informed consent form and survey that is written in English, (3) Individual signs an informed consent form, and (4) Individual completes all sections of the survey. Exclusion criteria for this study included: (1) Individual declined to participate in the study (2) Individual declined to sign an informed consent form, and

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