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Pressure to produce = pressure to reduce accident reporting?

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ABSTRACT

Each year, more than 4 million U.S. workers are injured on the job – several thousand die (Bureau of Labor Statistics, 2008). Despite these staggering numbers, research suggests that they are gross underestimates of the true volume of workplace related illnesses and injuries due to accident under-reporting. Although accident under-reporting has been well-documented, less is known regarding why this occurs. The current study suggests that under-reporting may in part be due to high levels of perceived production pressure. Specifically, this study tested the hypotheses that production pressure would be related to more experienced accidents overall and more negative attitudes toward reporting accidents. Further, we expected that production pressure would exacerbate the under-reporting of accidents. Survey data were collected from a sample of 212 copper mining workers located in the southwestern United States. The survey measured employee perceptions regarding production pressure, attitudes toward reporting accidents, perceived consequences of reporting accidents, and actual reporting behaviors (e.g., types and numbers of accidents experienced vs. reported). As predicted, the average number of experienced accidents per employee was significantly higher ($M = 2.84$) than the number of reported accidents ($M = .49$). In addition, production pressure was related to more negative reporting attitudes. Individuals who had positive reporting attitudes were injured less frequently; however, when an incident occurred, they were more likely to report it. Finally, higher levels of production pressure were related to greater accident under-reporting. Additionally, employees who perceived high levels of production pressure not only experienced more accidents overall, they also reported fewer of them to the organization. Implications for occupational safety initiatives – particularly in the current economic climate – are discussed, as are methodological challenges of conducting research in this area.

1. Introduction

Each year approximately 4 million work-related injuries and illnesses are reported in the United States (Bureau of Labor Statistics, 2008), representing a rate of about 4.2 cases for every 100 full-time equivalent workers. Despite this staggering number of illnesses and injuries, recent research (Leigh et al., 2004; Lowery et al., 1998; Probst et al., 2008; Rosenman et al., 2006) suggests that these figures may actually significantly underestimate the true number of non-fatal occupational injuries due to employee under-reporting of workplace injuries and illnesses (i.e., failing to notify appropriate company officials when a safety incident has occurred). Indeed, such research indicates that between 60 and 80% of all experienced injuries are not captured in these national databases (Leigh et al., 2004; Lowery et al., 1998; Probst et al., 2008; Rosenman et al., 2006).

While some research has linked accident under-reporting with factors such as age and tenure (Karr, 2000; Conway and Svenson, 1998; Weddle, 1996); fear of reprisals or loss of benefits (Webb et al., 1989; Sinclair and Tetrick, 2004); and with a general acceptance that injuries are a fact of life in certain lines of work (Pransky et al., 1999), no research to date has investigated the effect of perceived production pressure on the accuracy of employee reports of experienced workplace safety incidents.

The current study begins to address this limitation by examining the relationship between production pressure and accident under-reporting among workers employed in a high-risk occupation (mining). Specifically, we first evaluate the extent of under-reporting of workplace safety incidents within this context. Next, using Behavioral Reasoning Theory (BRT; Westaby, 2005) as our theoretical foundation, we examine how perceived production pressure may be related to reporting attitudes and the experience of negative consequences of reporting accidents. Finally, we test the hypothesis that production pressure will be related not only to more experienced accidents, but also to less congruence between the number of experienced accidents and what is actually reported to the organization.

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1.1. The phenomenon of accident under-reporting

In order to investigate the problem of accident under-reporting, it is important to first clearly define what is required to be reported. Unfortunately, specific reporting requirements may differ somewhat from organization to organization. For example, in the United States, employees (and their organizations) are required to report any work-related injury or illness that results in: death, loss of consciousness, days away from work, restricted job duty or transfer, or medical treatment beyond first aid (Occupational Safety and Health Administration, 2001). However, some organizations voluntarily take an even more conservative approach by also requiring that employees report all minor injuries (i.e., those only requiring first aid) as well as all near misses (i.e., any unplanned and uncontrolled event that could have resulted in injury, but did not). Thus, to properly investigate under-reporting, researchers must ensure that their analyses take into account the specific reporting requirements of the particular organization where the data are collected.

Under-reporting then can be said to occur when there are discrepancies between the number of events that meet the employer's definition of a reportable event and the number of events that are actually reported by the employee to the employer. As the discrepancy between the number of experienced and reported events increases, under-reporting can be said to increase. Unfortunately, a growing body of research shows that many events meeting the definition of a reportable event are not actually reported.

Although the exact extent of accident under-reporting varies from study to study, this existence of this phenomenon has been well documented in the empirical literature (Glazner et al., 1998; Leigh et al., 2004; Pransky et al., 1999; Rosenman et al., 2006) and occurs at both the organizational-level (i.e., failure of organizations to properly report accidents to regulatory authorities) as well as the individual-level (i.e., failure of employees to properly report accidents to their employer). For example, at the organizational-level, Rosenman et al. (2006) suggest that up to 68% of all workplace accidents and injuries are not captured in national injury surveillance systems set up by the Occupational Safety and Health Administration (OSHA) and the Bureau of Labor Statistics (BLS). Similarly, Probst et al. (2008) report that nearly 78% of all experienced accidents went unreported by organizations. At the employee-level, in a multi-organization survey study of 425 employees from 5 industry sectors, Probst and Estrada (2010) found that employees failed to report 71% of all work-related injuries to their company. Finally, Probst (2006) found that employees failed to report over half of all experienced accidents to their supervisors. Thus, while specific estimates may vary across studies, the accumulated evidence suggests that under-reporting is a prevalent phenomenon. Based on this empirical evidence, we predicted:

Hypothesis 1. Accident under-reporting will occur, such that the number of experienced accidents will be significantly larger than the number of reported accidents.

Although we expected to replicate these earlier findings demonstrating the existence of under-reporting, the primary contribution to be made by the current study lies in investigating one potential cause of such under-reporting: organizational production pressure.

1.2. The relationship between production pressure and employee safety

Production pressure can be defined as organizational demands to attain operational goals for the purpose of increasing organizational profits and/or efficiency. Research has shown that a strong organizational emphasis on production can have a detrimental impact on employee health and safety. In a study of the effects of lean production organizations, Landsbergis et al. (1999) found adverse employee health and injury rates were higher in a variety of industries that were implementing lean production cultures. In addition, Probst (2002) found that when employees were threatened with layoffs, they chose to focus more on production at the expense of safety. Further, when forced to make decisions about which employees to layoff, Probst and Brubaker (2007) found that individuals were more likely to believe that productive workers would be retained over safety-conscious workers even when the workers had overall equivalent levels of performance.

Research has also shown that employees often view the organizational demands of safety and production as competitive in nature (Faverge, 1980; Janssens et al., 1995; Kjellen, 1984; Leplatt and Rasmussen, 1984). As the organization places a greater emphasis on production, the more employees perceive that safety is subordinated to the demands of production (Janssens et al., 1995). In some cases, unsafe behavior may actually be perceived to be rewarding if it allows the employee to perform work tasks more quickly (Slappendal et al., 1993). For example, wearing ear plugs may protect the employee hearing, but it can also cause unwanted delays in relaying and understanding verbal information particularly in loud environments.

Based on this empirical evidence, we expect that:

Hypothesis 2. Production pressure will be related to more experienced accidents.

1.3. Behavioral reasoning theory: using reasons, motives, and intentions to predict accident reporting

Although the review of the empirical literature above indicates that accident under-reporting occurs and that production pressure is related to poorer safety outcomes, until recently, there has been relatively little attempt to evaluate the extent to which such pressure is related to employee attitudes and behaviors regarding accident reporting or to explain this behavior within established theoretical frameworks. However, Probst and Graso (2011) recently proposed Behavioral Reasoning Theory (BRT) as a theoretical framework for the prediction of accident under-reporting.

Behavioral Reasoning Theory (BRT; Westaby, 2005) is rooted in behavioral intention theories (e.g., theory of planned behavior; Ajzen, 1991), which predict behavior based upon individual attitudes toward the behavior itself, subjective norms (i.e., social pressure), and perceived control (i.e., the ease/difficulty of enacting) over the behavior. BRT expands upon such theories by incorporating context-specific reasons for and against specific behaviors into the model. Westaby (2005) defined reasons as "the specific subjective factors people use to explain their anticipated behavior" (p. 100). According to the theory, reasons are expected to be influential drivers of human behavior, because they help people satisfy their needs to justify, defend, and understand their behavioral decisions (Westaby et al., 2010). Although BRT has been successfully applied in a wide a variety of contexts (e.g., intention to work following terminal illness diagnosis, Westaby, 2005; leader decisions to employ youth workers, Westaby et al., 2010), it has not yet been applied to the context of work safety. Nonetheless, one can use this theory in order to derive predictions about reporting behavior.

At the individual-level, employees may have a variety of reasons for reporting an accident (e.g., enabling correction of problem, receiving workers compensation) as well as reasons against reporting (e.g., being blamed or ostracized, losing benefits, or accepting injuries as a fact of life; Pransky et al., 1999; Sinclair and Tetrick, 2004). These reasons are not only hypothesized to directly influence intentions to report accidents, but are also expected to influence one's perceptions regarding subjective norms, perceived control,