The differential effects of transformational leadership facets on employee safety

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ABSTRACT

Transformational and transactional leadership have been associated with numerous positive safety outcomes, such as improved safety climate, increased safety behaviors, and decreased accidents and injuries. However, leadership is a complex, multidimensional construct, and there is reason to suspect that different facets of leadership may affect safety in different ways and for different reasons. Yet little research to date has considered the relationships between individual facets of transformational and transactional leadership and safety outcomes. The present study addressed this gap by using relative weights analysis to examine the unique influences of leadership facets on five employee safety outcomes. In a survey of 1167 construction pipefitters and plumbers, idealized attributes and behaviors accounted for the most variance in each of the safety outcomes, whereas individualized consideration and active management-by-exception frequently accounted for the least amount of variance. These results suggest that leadership development programs in construction should address multiple individual elements of leadership, such as core values, as well as concrete skills and behaviors.

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1. Introduction

To foster a proactive approach in the prevention of workplace injuries, organizations have turned towards key predictors of safety, such as leadership (e.g., Zohar, 2002). Due to their influence within an organization, leaders can play a pivotal role in the promotion of safety at work (Flin and Yule, 2004). Although research on the relationship between leadership and safety has progressed substantially over the last 30 years, the majority of studies have focused on the influence of overall effective leadership or general leadership styles on a variety of safety outcomes (Christian et al., 2009; Nahrgang et al., 2011). For example, transformational leadership that emphasizes safety has been linked to increased employee safety behaviors (e.g., Barling et al., 2002; Conchie and Donald, 2009). This research has established the broad influence of leadership on safety; however, it has not yet examined the role of more specific facets of leadership within these general leadership models (Inness et al., 2010).

Understanding the links between individual leadership facets and safety is important for both theoretical and practical reasons. First, the underlying mechanisms by which leadership may influence safety are not yet well understood (Zohar, 2011). As leadership is often conceptualized as a multidimensional construct (Bass, 1985), it is quite possible that different aspects of leadership may affect safety in different ways and for different reasons. In other words, there may be multiple paths between leaders' behavior and employees' safety outcomes, which are obscured when leadership is treated as a unitary construct. Indeed, there is tentative evidence in the research literature to suggest several such paths (e.g., Bruch and Walter, 2007), which we will discuss in more detail below. Establishing whether one, some, or all facets of leadership have unique influences on safety can provide useful insight about the complexity of the relationship between these variables and provide a framework for future theory development. Further, from a pragmatic perspective, determining the relative contributions of individual leadership facets to safety can aid researchers and practitioners in developing better interventions. If some facets are much more important than others in predicting outcomes, it is logical to target resources toward developing the most important

facets. If, however, all facets make unique contributions, a comprehensive development approach is needed.

In this study, we examined the differential effects of seven facets of transformational and transactional leadership on five safety outcomes: safety climate, safety compliance, safety participation, work-related injuries, and work-related pain. We argue that individual facets of leadership are likely to relate to different outcomes to different degrees. In the following sections, we briefly introduce transformational and transactional leadership, and then review the theoretical and empirical links between these leadership models and safety. We then discuss the facets of transformational and transactional leadership in more detail, considering the limited existing evidence that suggests that each facet might have a unique relationship with employee safety outcomes, and propose specific hypotheses for the present study.

1.1. Transactional and transformational leadership

Much of the leadership research in recent years has focused on transactional and transformational leadership (Avolio, 2011; Avolio et al., 2009; Bass and Riggio, 2006; Inness et al., 2010; Zohar and Tenne-Gazit, 2008). The transactional leader recognizes the needs of employees and the needs of the organization, and then conveys to employees what they must do to meet both of these (Burns, 1978). Transformational leaders recognize the needs of both the organization and employees, but go beyond these to arouse and satisfy higher needs within each individual. To explain further, a transactional leader addresses employees' separate, individual interests, but a transformational leader encourages employees to unite in the pursuit of higher goals aimed at significant positive change in an organization. Both transactional and transformational leadership styles are related to leader effectiveness, with the best leaders demonstrating both transactional and transformational behaviors (Avolio, 1999; Bass, 1985; Judge and Piccolo, 2004).

Both transactional and transformational leadership are conceptualized as multidimensional constructs, comprised of related but theoretically distinct facets (Bass, 1985; Burns, 1978). Transactional leadership behavior can be divided into three facets: contingent reward, active management-by-exception, and passive management-by-exception (Avolio, 1999). Contingent reward involves providing appropriate rewards and recognition for positive behaviors and clearly communicating those reward contingencies to employees. Both types of management-by-exception involve discouraging negative behavior; active management-by-exception is proactive and focused on prevention, whereas passive management-by-exception is reactive and focused on correction after the fact. Contingent reward and active management-by-exception are considered effective leadership and have been shown to have positive effects on employee outcomes (Bass, 1985); however, passive management-by-exception reflects ineffective leadership (Avolio, 1999).

Transformational leadership consists of four major facets: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Bass, 1985). Idealized influence is the degree to which employees look to the leader as an example and seek to emulate him or her. Inspirational motivation involves encouraging employees to strive for something beyond their individual goals. Intellectual stimulation means inspiring employees to think creatively and innovatively, and individualized consideration means showing respect and personal concern for employees as individuals. Although the facets of transformational leadership are highly correlated (Bass, 1985), recent research suggests that they can be distinguished empirically as well as conceptually (Hobman et al., 2012), and some studies have established differential links between specific facets and outcomes such as

job satisfaction, productivity, and organizational commitment (e.g., Chiok Foong Loke, 2001; McNeese-Smith, 1995, 1997). This raises the important question of whether specific leadership facets might also show differential relationships with safety.

1.2. Evidence linking leadership and safety

The link between leadership in general and safety is both theoretically logical and empirically supported (Christian et al., 2009; Nahrgang et al., 2011). The behavior of managers and leaders reflects the priority they place on safety and health on the job, and workers can interpret these behaviors to create ideas and norms regarding the importance of safety to their leaders (Zohar, 2011; Zohar and Tenne-Gazit, 2008). There is evidence to suggest that leaders play a key role in the creation of safety climate, which in turn influences workers to increase their safety behaviors, thereby decreasing their accidents and injuries (e.g., Barling et al., 2002).

1.2.1. Leadership and safety climate

It has long been recognized that leaders create climates through their actions (Lewin et al., 1939), which provide the guidelines for how employees should act and interact with their work environment, colleagues, and supervisors. Safety climate can be defined as employees' perceptions regarding the way an organization values safety (Zohar, 1980). Empirical studies have provided support for the importance of transformational leadership in particular in establishing the safety climate in an organization, with meta-analyses estimating corrected correlations as strong as $r = .5$ or .6 (Christian et al., 2009; Nahrgang et al., 2008). However, all of this research has treated transformational leadership as a unitary variable, using global measures of transformational leadership or aggregating across facets, and research on transactional leadership and safety climate is lacking.

1.2.2. Leadership and safety behaviors

Employees that observe their leader behaving safely at work will be more likely themselves to behave in a safe manner with that leader as a role model (Hofmann and Morgeson, 2004). Employee safety behaviors can generally be characterized by two forms: safety compliance and safety participation (Griffin and Neal, 2000). Safety compliance refers to following safety policies and procedures and engaging in required safety behaviors. Safety participation is demonstrated by going beyond procedures to help coworkers, promote safety and its principles, taking initiative to be safe, and putting effort into improving safety at work (Neal et al., 2000). A recent meta-analysis (Christian et al., 2009) shows support for the link between leadership and safety compliance (mean corrected correlation: $r = .24$) and safety participation (mean corrected correlation: $r = .35$). However, leaders may engage in many different behaviors, and whether employees engage in safety participation and/or safety compliance may depend on the leader behavior they are modeling. It is therefore important to distinguish between these two types of safety behaviors, as they may be influenced by different facets of leader behavior.

1.2.3. Leadership, injuries, and pain

Effective leadership can also lead to decreased occupational injuries and pain. In a meta-analysis by Christian et al. (2009), the uncorrected correlation between leadership and accidents and injuries was $r = -.14$. After correcting for artifactual error (i.e., sampling error, Raju and Brand, 2003), this correlation was $r = -.16$. In a more recent meta-analysis by Nahrgang et al. (2011), the uncorrected correlation between leadership and pain was $r = -.12$ ($r = -.14$ after correcting for unreliability). When leaders engage in safety-promoting behaviors, employees perceive