



## Safety leadership, risk management and safety performance in Spanish firms



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### ARTICLE INFO

#### Article history:

Received 24 April 2014

Received in revised form 30 June 2014

Accepted 4 July 2014

Available online 31 July 2014

#### Keywords:

Transactional leadership

Transformational leadership

Proactive risk management

Safety performance

Structural equation modelling

### ABSTRACT

This paper aims to study the role of the safety leadership and of the proactive risk management in the improvement of occupational safety performance. To this end, the authors develop and test a model on a sample of 188 organisations located in Spain using the structural equation modelling technique. The results show the importance of employees' safety behaviour in the improvement of safety outcomes, as well as the importance of the proactive risk management and transformational leadership in promoting safety behaviour. These findings are particularly important for management since they provide evidence about the factors that firms should encourage to reduce risks and improve safety performance.

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## 1. Introduction

Nowadays, many authors consider that the human factor plays a fundamental role in the organisation's safety performance (Donald and Young, 1996). Employees are the last barrier against risks, and their behaviour is critical for avoiding personal harm and material damage (Eiff, 1999; Hofmann and Stetzer, 1996). However, unsafe worker behaviour is frequently the result of latent defects in the organisation and management systems that predispose workers to act unsafely (Kawka and Kirchsteiger, 1999; Perrow, 1984; Reason, 1997). Wilpert (1994) stresses that, in general, many incidents are not caused by a single operator, but occur as the result of a chain of factors that interact at various levels of the system. According to this perspective, accidents attributed to human error very frequently have their true roots in system design and process management. This approach sees human error more as a consequence than as a cause, suggesting a causal sequence in which the system factors influence the safety outcomes via workers (Brown et al., 2000; DeJoy, 1994; Hofmann and Stetzer, 1996).

Although a number of studies analyse the interaction between system and human factors (Brown et al., 2000), the causal sequence is unclear. Thus the process by which accidents are

generated remains hazy. A better understanding of the determinants of employees' safety performance that precede injuries could lead to improvements in workplace safety (Neal and Griffin, 2006).

In the current study, the authors analyse the relations between safety leadership, proactive risk management and safety performance. It is developed a model to understand the process by which accidents are generated and hence the factors that firms need to promote to avoid accidents and injuries and interruptions to their operations processes. An important novelty of this work is its analysis of the isolated effects of two leadership styles on safety performance: transformational and transactional leadership. Additionally, most previous studies focus on specific sectors such as university and college laboratories (Wu et al., 2008), warehouses (Koster et al., 2011), healthcare (McFadden et al., 2009) or the steel industry (Brown et al., 2000). The current work tests its model on a sample of organisations belonging to different sectors (manufacturing, construction and services), so its results are more generalisable.

## 2. Theoretical framework

### 2.1. Safety performance

Previous research has not produced a consensus about the constituents of safety performance. Indeed, Glendon and Litherland (2001) point to the lack of an adequate measure of this concept as one limitation associated with evaluating the effectiveness of different safety programmes. Martínez-Córcoles et al. (2011) examine the safety research in depth, and identify two different

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ways of studying safety outcomes in organisations: through accident or injury indices (e.g., Mearns et al., 2003; Niskanen, 1994; Vredenburg, 2002; Zohar, 2000, 2002) and through safety behaviour (Cooper and Phillips, 2004; Neal et al., 2000; O'Dea and Flin, 2001). Martínez-Córcoles et al. (2011) argue that evidence exists to suggest that safety behaviour and accident/injury rates are complementary safety outcomes. In this work, the authors take both approaches, measuring safety performance by accident rates and safety behaviour. The authors also include an additional dimension: employee satisfaction. This dimension has achieved little attention in the context of workplace safety (Fernández-Muñiz et al., 2012).

With regards safety behaviour, Marchand et al. (1998) argue that a uni-dimensional model is inappropriate and propose to include not only workers' compliance with safety rules and procedures, but also their safety initiatives (Clarke, 2006). In this line, Griffin and Neal (2000) propose a model of safety behaviour based on theories of job performance (Campbell et al., 1993). This model incorporates two dimensions of safety behaviour: safety compliance and safety participation. Safety compliance refers to behaviours focused on meeting minimum safety standards at work (Inness et al., 2010), such as following safety procedures, wearing personal protective equipment and carrying out work in a safe manner. Safety participation refers to behaviours that support the organisation's objectives and goals in this area (Vinodkumar and Bhasi, 2010), such as helping co-workers, promoting the safety programmes within the workplace, participating in voluntary safety activities, demonstrating initiative, and putting effort into improving safety in the workplace (Neal et al., 2000). While safety compliance includes behaviour that improves employees' personal health and safety, safety participation includes the behaviour that supports overall safety in the organisation (Griffin and Neal, 2000).

Safety compliance involves behaviours that could be considered part of the employee's work role, while safety participation involves a greater voluntary element, including behaviours beyond the employee's formal role, in other words organisational citizenship behaviours (Clarke, 2006).

## 2.2. Safety leadership

Over recent decades, a large number of studies has investigated leadership. Today authors consider this concept an essential factor in successful organisational change and one of the key driving forces for improving firm performance (Buch and Rivers, 2001; Zhu et al., 2005).

Leadership is an ambiguous term that is difficult to define precisely. Northouse (2007) defines leadership as “a process whereby an individual influences a group of individuals to achieve a common goal”. Martínez-Córcoles et al. (2011) review definitions of leadership and conclude that “a common element is present in all of them, namely, that the leader does by means of others or induces others to perform activities that they would not carry to completion if this influence were not present in the first place”.

Burns (1978) identifies two leadership styles via which leaders can influence their followers' behaviours: transactional and transformational leadership. The Multifactor Leadership Theory (Bass and Avolio, 2000) adds a third leadership style, *laissez-faire*, which in fact refers to a lack of leadership (McFadden et al., 2009). The current work therefore focuses its analysis on transactional/transformational leadership.

Transactional leadership refers to the exchange relationship between leader and subordinates in which both parties pursue their own self-interest (Bass, 1999). This leadership focuses on compliance with contractual obligations by establishing objectives and monitoring and controlling the results (Bass and Avolio, 2000). It may take the form of contingent reward, where the leader

explains to the followers what they must do to be rewarded for their efforts (Bass, 1999), in other words, the leader establishes the goals and identifies the rewards the followers will obtain if they achieve the goals and the punishments if they fail (Bass, 1985). Thus transactional leadership helps organisations achieve their current objectives more efficiently by linking job performance to valued rewards and by ensuring that employees have the resources they need to carry out their work (Zhu et al., 2005).

In contrast, transformational leadership motivates followers to improve performance by transforming followers' attitudes, beliefs, and values as opposed to simply gaining compliance (Bass, 1985). Transformational leaders, by strongly promoting leader-member exchange, make their followers aware of the importance of the results obtained, improve their employees' innovative and creative behaviours (Birasnav et al., 2010; Krishnan, 2005), seek new ways of working, seek opportunities in the face of risk, prefer effective answers to efficient answers, and are less likely to support the status quo (Lowe et al., 1996). Transformational leaders generate trust and respect among their followers, who are motivated to achieve more than was originally expected (Bass, 1985). These leaders move their followers beyond their own self-interests for the sake of the group, organisation or society (Bass, 1999; Kapp, 2012).

The transformational style tends to be considered broader and more effective than the transactional style (Bass and Avolio, 2000; Bass and Riggio, 2006). But Bass et al. (1987) argue that transformational leadership is likely to be ineffective in the total absence of a transactional relationship between leader and subordinate. Thus both styles can be combined to achieve the desired aims and so can be seen as complementary rather than polar constructs (Bass, 1985). Leaders can use both styles to different extents to achieve their organisation's objectives and goals (Bass, 1999).

In recent years the concept of leadership is gaining increasing acceptance in the field of occupational safety. Wu (2005) defines safety leadership as “the process of interaction between leaders and followers, through which leaders could exert their influence on followers to achieve organizational safety goals under the circumstances of organizational and individual factors”. Previous studies (Cohen, 1977; Cooper and Phillips, 2004; Hofmann and Morgeson, 1999; Hofmann et al., 1995; 2003; Kelloway et al., 2006; Martínez-Córcoles et al., 2011; Zohar, 1980, 2002) stress the importance of the leader in improving employees' safety behaviour and safety outcomes. Hofmann and Morgeson (1999) suggest that employees have a greater propensity to commit themselves to safety and maintain an open communication about safety when they consider that the organisation supports them and when they maintain high-quality relationships with their leaders (Eid et al., 2012).

In short, when the managers demonstrate their commitment to safety and their concern for employee well-being, the employees tend to extend their role in the organisation to include safety-related organisational citizenship behaviours (Clarke, 2006; Hofmann et al., 2003).

Both leadership styles can demonstrate management's commitment to safety. Transactional leadership involves contingent reward practices where the leader establishes appropriate goals, leads employees' behaviour towards the achievement of these goals and gives employees rewards, punishments or corrective feedback (Kapp, 2012). These contingent reward leadership practices improve subordinates' safety behaviour (Zohar and Luria, 2003). Inness et al. (2010) even suggest that in order to achieve safety compliance, formal control through rewards and punishments may be more appropriate than transformational leadership. Likewise, an organisation in which safety is valued and rewarded conceivably encourages safety behaviour that goes beyond mere compliance with the rules. In other words, such an organisation could also encourage employees to participate actively in safety

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