

## **Safety Management for the Occupational Driver: The Conceptual Development of a Program**

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### **Abstract**

Road traffic injury is the leading cause of work-related death in Australia. Despite this, limited attention has been given to preventive strategies. A safe driving environment at work not only depends on individual compliance with safe driving practices but on all individuals anticipating threats to safety, showing concern for the safety of others, and contributing to safety improvements in the organisation. In particular, workgroup supervisors (those who monitor and regulate drivers in their performance of assigned tasks, both driving and non-driving related) play a pivotal role in creating a safe work environment. For example, a supervisor showing concern for a driver through increased safety-related discussions has been associated with safer driving behaviour by the employee. This presentation will describe the role of the supervisor in the safety management of work-related drivers and the development of a program (ie., Safety Management for the Occupational Driver) that aims to develop the skills of supervisors in identifying situations in which their drivers may be at risk on the road (e.g., drivers are tired, stressed, under pressure to meet deadlines) and to manage these situations effectively.

### **Introduction**

Work-related driving is an increasingly important factor in road safety. More than 30% of registered motor vehicles in Australia are work-related vehicles with an estimated 33% of work-related fatalities occurring while driving (Driscoll et al., 2005). In New South Wales alone, there are 5.3 fatalities per 100,000 registered fleet vehicles (defined as vehicles which have a business registration or vehicles with a private registration but where the registered operator is an organisation; Haworth & Symonds, 2005) (Stuckey, LaMontagne, Glass, & Sim, 2010) and there is evidence suggesting an over-representation of work-related drivers in road traffic injury compared with non-work-related drivers (Downs, Keigan, Maycock, & Grayson, 1999; Lynn & Lockwood, 1998; Murray, Newnam, Watson, Schonfeld, & Davey, 2003; Newnam, Watson, & Murray, 2002). This emerging problem is not solely occurring in Australia with work-related road traffic deaths estimated to account for 22% of work-related fatalities in the United States, and 16% in New Zealand (Driscoll, et al., 2005).

Despite the statistics highlighting the over-representation of work-related road traffic trauma and death, there is limited systematic understanding of the organisational factors influencing the safety of these drivers. Recent research has indicated the importance of leadership on safety outcomes in this context. It has been found that leaders play a pivotal role in creating a context where safety is valued and crash involvement is reduced (Newnam, et al., 2008). Research has also identified that a leader's concern for a driver, as evidenced through increased safety-related discussions, is associated with safe driver behaviour (Newnam, et al., 2012). Despite the acceptance of the link between leadership and safety outcomes, the literature provides surprisingly little guidance about *how* supervisors can change safe driving at work. This presentation discusses an approach to address this gap by introducing a safety leadership development program that identifies the key

elements of supervisory skill that define the role of a safety leader and aims to facilitate change in driver safety. This program is referred to as *Safety Management for the Occupational Driver (SMOD)*.

## **Background**

Traditionally, preventive strategies to reduce work-related crashes have focused on the individual driver (Newnam & Watson, 2011). This focus is based on the premise that safe driving is contingent on driver's compliance with safety procedures. However, as indicated previously, attention has focused on how the social and organisational context shapes individual safe driving beliefs, attitudes, and behaviours (Newnam et al., 2008; Newnam et al., 2012; Wills, Watson, & Biggs, 2009). This research has identified that a safe work environment not only depends on individual compliance with safety procedures but on all individuals anticipating threats to safety, showing concern for the safety of others, and contributing to safety improvements in the organisation. These aspects of behaviour are considered to go beyond compliance and have been termed "safety participation" because they involve active engagement with safety beyond adherence to rules and regulations (Neal & Griffin, 2006).

The organisational context is important for shaping both safety compliance and safety participation (Griffin, Neal, & Parker, 2007). Some evidence suggests that contextual influences, such as leadership, are more strongly related to participation than compliance (Hofmann, Morgeson, & Gerras, 2003). However, results from the broad research of work injury are mixed and there is limited empirical evidence specific to safe driving at work. This absence in the research literature represents an important limitation in current theory and practice, as effective intervention must be aligned with the organisational context and target the most appropriate behaviour.

The SMOD has been developed to address this issue. The SMOD, created through an evidence-based foundation, elaborates the role of supervisors in integrating safety compliance and safety participation and identifies elements of supervisory skill that, when developed, facilitate and enhance driver safety. The conceptual framework of the program is described, below.

## **Conceptual background**

Supervisors play a critical role in linking the goals of an organisation to the goals of individual employees (Newnam et al., 2008). This role is particularly challenging in work-related driving where line-management relationships are complex and ambiguous. Unlike in other high risk workplace environments (e.g., manufacturing), driving at work can differ from other work tasks and safety responsibilities in important ways. For example, driving activities often fall outside typical line management responsibilities and are supervised by a person who is not part of the same management structure associated with other work roles (ie. a fleet manager; Newnam et al., 2008). Despite this ambiguity, supervisors are well-placed to identify situations in which their drivers may be at risk on the road (e.g., drivers are tired, stressed, under pressure to meet deadlines) and to manage these situations effectively (Newnam, et al., 2008).

To assist supervisors in better aligning the goals of the organisation to the goals of individual employees, the SMOD draws on a systems approach to build a more complete picture of supervisory effects on driver safety (see figure 1). The framework identifies four elements of supervisory skill that are important for supervisory impact on driver safety – these elements comprise the developmental components of the SMOD. The role of these supervisory skills in integrating safety compliance and safety participation and the impact on driver safety is elaborated, below.

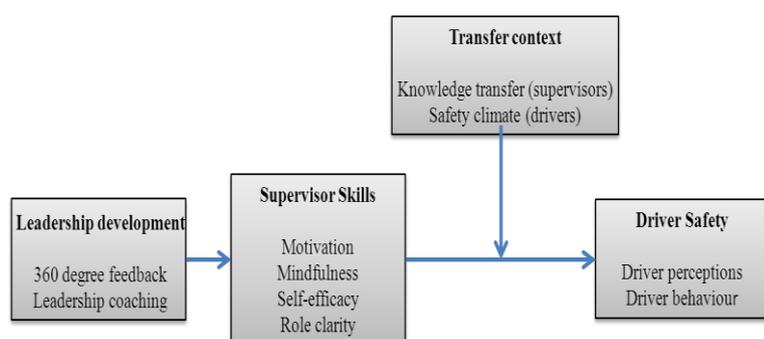


Figure 1: A systems approach to safe driving at work

The first element of supervisory skill focuses on motivation. The relationship between motivation and individual safety performance has been well established in the research literature. For example, motivation has been found to exert a strong impact on individual safety performance, with positive effects on safety performance with lags of up to

2 years (Neal & Griffin, 2006). Research has also found strong support for the role of motivation in improving safety outcomes in the work-related driving context (Newnam, et al., 2008).

The SMOD extends this literature by examining the role of supervisors' motivation to improve driver safety. Pro-social motivational theories provide the foundation for developing this element of supervisory skill. Pro-social motivation is similar to intrinsic motivation in that it is based on the desire to expend effort to obtain internal reward; however, pro-socially motivated individuals are more likely to expend effort based on the desire to benefit others (Grant, 2008) rather than on interest and enjoyment in the task (Ryan & Deci, 2000). Research has found that pro-socially motivated individuals are less likely to behave in accordance with hedonistic principles and more likely to respond to feedback that benefits the well-being of others (Korsgaard, Meglino, & Lester, 1997). Based on this theory, a supervisors' ability to adapt to new information will be related to the level of concern for others and that their ability to identify the internal rewards of safety management will have a positive cross-level change effect on the safety behaviour and perceptions of drivers (see Newnam et al., 2012).

The remaining elements of supervisory skill focus on work-role attitudes, including role clarity, self-efficacy and mindfulness. Adapted from a model of work-role performance (Griffin, et al., 2007), these work-role attitudes have been identified as individual predictors of work-role performance. These attitudes can be described as follows; *Role clarity* refers to the level of certainty in regards to expectations or requirements surrounding a work role (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964). *Task-specific self-efficacy* refers to one's perceived ability to perform a particular task (Gist & Mitchell, 1992). *Mindfulness* reflects the quality of consciousness in attention and awareness of ongoing events and experiences (Brown & Ryan, 2003). Research has identified these elements of supervisory skill important in supervisors; identifying with their role as a safety leader (*role clarity*; Newnam, et al., 2008), strengthening belief in their ability to prioritise safety over competing task demands (*self-efficacy*; Newnam, et al., 2012), and creating a context in which safety is valued (*mindfulness*; Newnam, et al., 2012). Based on this theory, a supervisors' ability to incorporate or adapt their leadership style to reflect change in work-role attitudes will have a positive cross-level change effect on the safety behaviour and perceptions of drivers.

In summary, the conceptual framework of the SMOD elaborates the role of supervisors in integrating safety compliance and safety participation through identifying the elements of skill (i.e., motivation, role-clarify, self-efficacy and mindfulness) that can assist supervisors to better allocate and manage safe driving at the individual-driver level. The program aims to develop the skills of supervisors in identifying situations in which their drivers are at risk on the road and to manage these situations effectively. A brief overview of the SMOD is described, below.

## **Safety Management for the Occupational Driver: Program overview**

The SMOD is conducted over a 4 month period with a half day group-based development session each month. Informed from exercises covered in each monthly development session, supervisors are asked to implement their newly learnt skills in their workgroups and discuss their experiences in the next development session. Supervisors are encouraged to monitor their own behaviour following each session by observing, evaluating and recording aspects of their own behaviour (i.e., behavioural self-monitoring). Behavioural self-monitoring has been identified as an effective practice for improving safety and productivity in the workplace (i.e., Olson & Wincester, 2008).

The SMOD uses 360 degree feedback (e.g., Seifert, Yukl, & McDonald, 2003) and leadership coaching (e.g., Ely, Boyce, Nelson, Zaccaro, & Whyman, 2010) to develop the safety management skills of supervisors (i.e., motivation and work-role attitudes). Research supports 360 degree feedback as one of the most effective methods to improving self-perception, development and work-role performance (London & Smither, 1995; Thach, 2002). Research has also shown the positive impact of 360 degree feedback in combination with leadership coaching for developing leadership skill in work environments characterised by uncertainty (e.g., Kampa-Kokesch & Anderson, 2001; Thach, 2002).

The SMOD also imbeds *communities of practice* (Brew & Peseta, 2004) to manage supervisory discretion in the delivery of the newly learnt safety management skills to drivers within each workgroup. This component of the program aims to reduce the variation that may occur between supervisors in their perceptions of how safety compliance and safety participation should be instituted at the driver level. The contribution of this element not only facilitates in the transfer of knowledge equally between supervisors, but has the potential to create more homogenous perceptions of the value given to safety (i.e., safety climate perceptions) by drivers within supervisory workgroups (Zohar, 2000).

## **Conclusion**

Improving safety outcomes for work-related drivers is vitally important considering the extent of road trauma and death in Australia and globally. Organisational systems play a key element in improving driver safety, yet there is limited guidance for industry on effective intervention approaches beyond those that modify discrete and often simple target behaviours (e.g., driver training programs). The SMOD takes the first step in this direction by identifying the key elements of supervisory skill that define the role of a safety leader and aim to facilitate change in driver safety. The program extends our understanding of leadership development within the more ambiguous context of driving safety based on both safety compliance and safety participation. The program develops the key, yet largely unrecognised safety management skills of supervisors using developmental techniques, including 360 degree feedback, behavioural self-monitoring, leadership coaching, and communities of practice.

The SMOD offers a number of advantages to industry. First, the Work Health and Safety Act (section 8.2, p15) is clear in its statement that a work vehicle is part of the workplace. Organisations operating light vehicle fleets have a legal obligation and a duty of care to provide a safe and healthy workplace; this includes defining the role and responsibilities of supervisors in the safety management of drivers. The SMOD directly addresses this issue. The program aims to (1) develop leadership in the safety management of drivers, (2) identify methods of (better) integrating safety management within existing work role tasks, (3) create leaders who are aware and attentive to a workplace context in which safety is valued, and (4) identify management styles that identify with the safety and well-being of drivers.

Second, industry is continuously searching for interventions that are cost effective and sustainable with the potential for long term behavioural change. The goal of the SMOD is to create safety leaders who can develop their own sustainable safety management systems that are focused on reducing work-related road traffic injury and death. Given that systems theory is now widely accepted to be the most appropriate approach for understanding accident causation in most domains (e.g. Dekker, 2011; Reason, 1997), the safety management approach far outweighs the traditionally approaches to driver safety aimed at modifying discrete and often simple target behaviours (e.g., driving skill).

In summary, the SMOD offers a unique approach to overcoming the challenges associated with managing the safety of work-related drivers. The conceptual framework of the program is established on evidence-based, systems thinking; thus, building a more complete understanding of safe driving at work. The program offers industry a cost-effective and sustainable approach to assist supervisors to better allocate and manage safe driving in their teams. Evaluation of the SMOD will extend current theory and practice in regards to the organisational systems that support safety compliance and safety participation behaviours in this context and, in particular, facilitate change in safe driving outcomes and reduce work-related road traffic injury and death.

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