High performance workplace systems' influence on safety attitudes and occupational driver behaviour

A B S T R A C T

For organisations employing occupational light vehicle drivers, there are unique challenges to developing a safe working environment. Drawing on role theory, this study elaborates on these challenges within a framework that identifies the role of both workplace management practices and individual attributes. The aim of this paper was to explore the relationship between attitudes and behaviour, and the role of High Performance Workplace Systems (HPWS) in moderating these relationships. The sample consisted of 911 drivers and 161 supervisors from 83 organisations. The results suggest that individual drivers' safety attitudes had a positive effect on safety behaviour in the work-related driver context, yet their organisation's HPWS has a negative impact on this type of safety behaviour. More importantly, organisation's HPWS appeared to moderate the relationship between safety attitudes and safety behaviour, such that safety attitudes had a stronger effect on safety behaviour when HPWS was low, rather than when HPWS was high. These findings suggest that when there is a lack of guidance through HPWS practices, employees draw on individual attitudes to direct behaviour. A key implication of this research is the need for multi-level interventions, addressing individual attitudes through behavioural modification programs, whilst also incorporating reform at the supervisory and senior management levels.

1. High performance workplace systems' influence on safety attitudes and occupational driver behaviour

Work-related driving is a major risk for organisations. This is due, in part, to factors such as fleet vehicles in Australia travelling three times the distance of average private vehicles (WorkSafe, 2008). It has also been suggested that the higher risk can be attributed to a lack of understanding of how employers create a workplace that supports safe driving practices (Newnam et al., 2017; Warmerdam et al. (2017a)).

Government agencies provide some direction for employers to support compliance with safe driving practices, and in some jurisdictions, it has been mandated that organisations who employ work-related drivers comply with Occupation Health and Safety (OHS) legislation. This legislation is designed to ensure that the health, well-being and safety of all employees are protected. The World Health Organisation also provides International Organisation for Standardisation 39,001 'Road Traffic Safety Management' to guide employers in the management of workplace road safety. Despite these efforts, it has been well established that OHS has not been well integrated within organisations that employ individuals to drive light (ie., < 4.5 tonnes) vehicles (Newnam and Watson, 2011b; Warmerdam et al. (2017a)).

The occupational driver context varies from 'traditional office environments' for two reasons: a) the organisational structure around the management of work-related drivers, and b) the preconceptions related to safe driving practices of individuals who are employed in a role that involves driving (Newnam et al., 2008, 2017; Warmerdam et al. (2017a)). This study explores the unique context of occupational drivers within a framework that identifies the role of both workplace practices and individual attributes and demonstrates the interaction between workplace practices and individual attributes.

1.1. The work-related driving context

The driving task has characteristics that distinguish it from other tasks performed within the workplace. First, there are inherent challenges associated with managing behaviour associated with a job task conducted outside the physical boundaries of the organisation. That is, driving is generally an autonomous task where there is low visibility between a supervisor and a driver; thus, limiting opportunity to manage behaviour through the collection of objective performance measures and the timely delivery of associated feedback (Newnam et al., 2012). Second, there is limited formalised leadership in the safety management of drivers (Newnam et al., 2008, 2012). Driving activities often fall outside line management responsibilities, and drivers are typically supervised by individuals who are not part of the same management structure associated with other aspects of their work roles (Newnam et al., 2008). Rather, driver behaviour is managed by the fleet manager, despite the fact these individuals often do not have formal responsibilities beyond asset (ie., vehicle) management (Warmerdam et al. (2017b)).

These challenges are further complicated when driving is considered as a secondary job role (Lynn and Lockwood, 1998). To illustrate, in the role of a sales representative, driving is often perceived secondary to the role of selling a product or service. The consequence is that the driving task is less likely to be formalised within position descriptions and performance evaluations (Warmerdam et al. (2017b)). As highlighted in the research literature, this has a negative impact on safe driving performance (Newnam et al., 2017; Warmerdam et al. (2017b)). That is, the management practices predispose drivers to an unsafe working environment. To understand this relationship, this study draws on role theory.

1.2. Role theory

Role theory describes how individuals assume characteristic behaviour patterns or roles, identities, and develop expectations (Biddle, 1986). The theory posits that an individual's behaviour is guided by membership of social groups and that roles communicate expectations for behaviour (Biddle, 1986). Establishing role behaviour expectancies is particularly challenging in uncertain work environments (Griffin et al., 2007). Uncertainty is a condition under which work roles are not well formalised in the organisational environment. Research has identified that uncertainty levels can influence workers' attitudes and behaviours (Ilgen and Hollenbeck, 1991). Environments characterised by uncertainty have been linked to adaptive performance whereby behaviour is more discretionary (Griffin et al., 2007).

The work-related driving context is a good example of an uncertain workplace environment. Given that driving is often considered secondary to the primary job role, it has been argued that there is a high level of uncertainty with regard to the role-behaviour expectancies when driving a vehicle (Newnam and Watson, 2009). Moreover, the physical distance between the worker and the supervisor may increase uncertainty. The level of uncertainty may account for variation in drivers' attitudes towards safe driving.

1.3. Attitudes towards safe driving

An attitude is an evaluation of a person, entity or idea that directly impacts on social behaviour (Eagly and Chaiken, 1993). Attitudes are influenced both by relatively enduring individual differences, as well as the context that individuals are exposed to (e.g. Neal and Griffin, 2004). For instance, in the workplace environment, an attitude can be formed through an assessment of how closely policy and procedure established by the organisation aligns with the workers' own personal goals (James and James, 1989). That is, the way the role is understood by the individual has an impact on their behaviour. In the work-related driving context, favourable or unfavourable attitudes toward rule violations and speeding has been defined as a safety attitude (Iversen and Rundmo, 2004).

Attitudes towards safe driving have been found to play a critical role in influencing safe driving behaviour. For example, Newnam et al. (2008) found that attitudes predicted motivation to drive safely and self-reported crashes. Wills et al. (2006) also demonstrated how attitudes predicted traffic violations, driver error, driving while distracted, and pre-trip vehicle maintenance, and that attitudes were a strong predictor of future intentions to drive safely in a work-related vehicle (Wills et al., 2009). Although these findings have provided valuable insight into the development of interventions designed to challenge drivers' key beliefs regarding safe driving practices (Newnam et al., 2012), it is still not understood how the attitudes of drivers would interplay with the organisational context in influencing their safe driving behaviours. The focus of this paper is to explore the lack of understanding in this interplay.

A worker's interpretation of role-behaviour expectancies has been found to be influenced by how the organisation measures employee effectiveness (ie., achievement of organisational goals; Griffin et al., 2007). However, some degree of ambiguity is likely to exist when interpreting safety goals in the driving role given the uncertainty in the workplace environment. The degree of uncertainty is also likely to be influenced by the behaviours performed when a driver is driving for personal purposes. Newnam et al. (2002) found that individuals drive differently for work and personal purposes and that organisational safety policies and procedures account for some of the variation (see also: Dimmer and Parker, 1999; Downs et al. (1999); Grayson, 1999). To illustrate, a worker may regularly use a hands-free mobile phone when driving for personal purposes, particularly if the individual has not experienced any punishment (i.e., crash, infringements) in their past driving. Kim and Yamashita (2007) found that seat belt use

increased in commercial vehicles in association with frequent supervisor communication. This creates a challenge for organisations trying to cultivate a safe working environment.

Although it could be argued that driver behaviour could be modified through workplace training or other risk management practices (eg., OHS communication such as newsletters or safety alerts; Warmerdam et al. (2017a)), research has established that there is a low level of maturity in the development, implementation and evaluation of such programs in the workplace (see Warmerdam et al. (2017b)). In particular, Warmerdam et al. (2017b) identified multiple areas for improvement, including training, ensuring management commitment to safety, standardisation and formalisation of organisational policies impacting drivers and the need for systems to validate practices that are implemented.

According to role theory, the lack of maturity in risk management practices in this context is likely to lead to a high degree of uncertainty in drivers' role behavioural-expectancies. This suggests that driver behaviour is likely to be influenced by the driver's personal characteristics, including their own attitudes towards safe driving behaviour. Thus, it was hypothesised that:

Hypothesis 1: Positive safety attitudes would be associated with safer driving behaviour.

1.4. High performance workplace systems

Although there is limited support for risk management practices in supporting a safe driving environment, there is a body of research that has explored the relationship between health promotion practices and safe driving. Much of this research has focused on safety culture (see Zohar, 2010). In the work-related driving context, a body of research has found a positive relationship between culture and safer driving (eg., Newnam et al., 2005; Wills et al., 2006)

More recently, research has focused on the role of human resources in creating a safe driving environment; specifically, the relationship between High Performance Workplace Systems (HPWS) and safety performance (Newnam et al., 2017; Zacharatos et al., 2005). HPWS are defined as a set of distinct yet interconnected human resource management practices. An organisation's implementation of HPWS is designed to cultivate reciprocity norms, whereby investment in HPWS is positively related to employee's concern for customers and other employees (Chuang and Liao, 2010). That is, when employees perceive an organisation values their contributions and cares about their well-being via supportive HPWS practices, they reciprocate with cooperative behaviour toward co-workers. This enriched environment has been found to support employee health and well-being through implicit communication of the organisation's concern for safety (see Mearns et al., 2010). This suggests that organisations investing in HPWS create an environment that supports safety behaviours. In support of this, Zacharatos et al. (2005) found that management practices had a positive impact on employee work safety.

However, there is also compelling evidence to refute this argument, with some research showing that HPWS can have a *negative* impact on behaviour. A study of government workers nested in 87 departments found that investment in HPWS is associated with poor psychosocial outcomes, including role overload and anxiety (Jensen et al., 2013). This finding was attributed to workers having the perception of low control over their job. In support, a study of 287 different firms found that the implementation of HPWS was associated with negative psychological outcomes such as anxiety, turnover and burnout, and these indicators were amplified when employees perceived they were not adequately consulted or treated fairly (Gulzar et al., 2014). These findings suggest HPWS can have negative impact on performance and negative individual psychosocial implications.

The negative influence of HPWS on behaviour has also been demonstrated in the work-related driving context. Newnam et al. (2017) examined how senior management impact driver behaviour through