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SAFE BOSSES? SAFE WORKERS? SAFETY CULTURE IN SMALL CONSTRUCTION INDUSTRY BUSINESSES

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INTRODUCTION

Safety cultures that either promote or impede occupational health and safety (OHS) are shaped by the interaction of factors in the social and physical working environments and individuals' perceptions and behaviours. A good safety culture facilitates the implementation and maintenance of risk control measures.

Technical definitions of risk conceptualise it as a probabilistic expression of hazard potential in OHS¹⁻³. However, social meanings of risk in workplaces may be different and instead reflect the safety culture of the workplace. An exploration of the social meanings of risk in OHS is therefore an important contribution to understanding safety culture.

This paper describes and discusses social meanings of risk among a sample of employers and employees in small painting businesses in the construction industry of Victoria, Australia. These meanings are linked to a safety culture that has important implications for the promotion of OHS in this industry.

The study described in this paper was conducted among employers and employees in the Victorian painting industry during an economic recessionary period. The industry is part of the broader construction industry which performs poorly compared to others in OHS^{4,5}. It is a 'blue collar', male dominated, small business industry⁶ and hence, the male pronoun will be used throughout this paper.

The paper begins by making a distinction between three conceptual models for understanding risk and its control in OHS. These are the technical, psychological and social models. The distinction is made to highlight the importance of the social contexts of risk and work in the production of safety cultures. The psychological and social models offer valuable research methodologies to study risk and safety culture in OHS and two methodological approaches are described and discussed. One approach is safety climate research which derives from research methods developed in psychological disciplines. The second is participant-observation, an anthropological research method that is utilised in the present study.

The results of the participant-observation study reported in this paper consist of two themes that explain how social meanings of risk among employers and employees in this small, blue collar industry are shaped by everyday experiences of working life in the industry. The findings provide insight into a safety culture of "safe bosses" and "safe workers" that impedes OHS promotion. The paper concludes with three implications for strategic promotion of OHS in small, blue collar industries and contributes to the development of theoretical underpinnings of safety climate research.

Technical models of risk and its control in occupational health and safety

Technical models of risk emphasise the role of scientific and technological expertise to define and control risk^{7,8}. Risk in OHS is conceptualised as a quantifiable measure of the relationship between the external work environment and human pathology¹⁻³. Strategies for risk control in OHS are envisaged within a three step risk management process, firstly, hazard identification, then risk assessment, and finally, implementation of risk control measures in an hierarchical order of effectiveness, termed the control hierarchy^{2,3}. The principle of the control hierarchy is that control measures aiming to change the external work environment are understood to be more effective than those that aim to change the behaviour of exposed workers.

Although technical approaches to risk control strategies have improved workplace health and safety, these have not been fully effective in promoting OHS^{9,10}. In part, this is because it has not taken account of psychological factors and social contexts of risk and work⁷⁻¹⁰.

Psychological models of risk and its control in occupational health and safety

The second approach is psychological and focuses on individual perceptions, attitudes and beliefs about risk that influence people's judgements of risk. This approach gives a central role in risk control to changing perceptions and behaviours of individual workers. Research on risk perceptions within the field of cognitive psychology has aimed at understanding apparent differences between lay people's risk judgements and scientific risk judgements arising from technical risk assessments¹¹⁻¹³. Safety climate research derives from organisational psychology and defines safety climate as a set of perceptions and attitudes about workplace safety that is shared by employees and influences their behaviour¹⁴.

Safety climate is measured by the administration of a written questionnaire that asks questions about attitudes to risks and risk control at work; responsibilities for safety at work; and perceptions of management commitment to safety and the respondent's own safety behaviour¹⁵. Responses are then subjected to factor analysis to identify underlying perceptual and attitudinal factors that describe the safety climate of the work group.

Dedobbeleer and Beland's (1991)¹⁶ examination of safety climate among USA construction workers is a particularly interesting study because it attempts to validate a previously published safety climate model¹⁴ which in turn had attempted to validate an earlier study. Dedobbeleer and Beland (1991) found that the perceived demonstration of management commitment to OHS was one of two important factors in workers' perceptions of their safety climate. The second factor was worker perceptions of their participation and involvement in risk control. In contrast, Brown & Holmes (1986)¹⁴, who conducted their research among USA manufacturing workers, identified three rather than two factors. These factors were employees' perception of management concern for their safety; employee perception of management action on safety; and employee perception of the physical risks to their safety.

Safety climate has been described as a component of safety culture within an organisation, work group or industry¹⁵. A valid and reliable instrument to measure safety climate would be a valuable tool to evaluate changes in safety culture following accidents¹⁴ or the introduction of safety interventions at work^{14,15}. Although reliability of safety climate instruments has been rigorously tested, validation has proved difficult to achieve. In part, this is due to the use of non-standard safety climate questionnaires by safety climate researchers and consequently the meaning of factors identified is unclear¹⁵. In part, it is also due to the lack of a sound theoretical framework underpinning safety climate instruments as a measure of safety culture^{15,17}. This raises an important question for safety culture research. Is the methodological approach utilised in safety climate research appropriate to explore safety culture? Safety climate studies employ research methods that focus on the sum of individual perceptions and attitudes as a direct indication of individual behaviour and assume it reflects social culture. However, social and public health theorists argue that the links between individual perceptions and attitudes and their behaviour are complex¹⁸ and influenced by interactions with social factors^{19,20}. The meanings of safety climate factors are therefore socially constructed and must be explored within the social context of the workplace by research methods appropriate to this purpose.

Social models of risk and its control in occupational health and safety

Social models of risk and its control in OHS explore how lived experiences within broader social contexts shape and construct meanings of risk among social groups^{7,19-21}. Studies of risk conducted from a social perspective, and using qualitative research methods that have strong theoretical underpinnings in sociology and anthropology, have yielded important insights into social meanings of risk^{7,10,20,22}. Public health researchers are increasingly turning to qualitative research methods to study and explain social factors that influence health and disease and to understand health promoting cultures²³.

Participant-observation is a qualitative research method developed by anthropologists to explore research questions about social groups and interactions. It allows researchers to learn about, describe, and understand how people experience and make sense of their lives. The method demands rigorous data collection and analytical methods to ensure the credibility of findings²³. However, participant-observation is rarely utilised in OHS research where the focus of attention has been on the external (physical) working environment and on the internal (psychological) environment of individuals at work. Consequently, it is worth explaining the principles of the method.

Three principles of participant-observation have been described by Neuman 1994²⁴. These are, firstly, people are studied in their natural settings. Anthropologists stress the importance of studying people's everyday lives to understand the social context of the research problem.

Secondly, people are studied by interacting with them. Anthropologists interact personally with people in the study group(s) so that their lives can be observed and recorded without undue discomfort or inconvenience. As a naturalistic method, it does not impose a predetermined framework on observations and consequently permits the study of near 'normal' life. From the researcher's point of view, this is an advantage because it enhances the validity of findings^{25,26}.

Thirdly, the goal of research is to gain understanding of the social world of the study group(s) and develop theoretical insights into their social realities. This principle of participant-observation often has political implications as it reveals underlying social structures and meanings on which strategies for individual and collective change may be based.

A few studies have employed participant-observation to explore experiences and social meanings of risk at work^{10,20,27,28}. Although providing important insights into the social context of risk at work, these studies give little attention to the social interactions between employers and employees. Social relationships governed through the contract of employment between employers and employees are a key feature of OHS. In the absence of an adequate understanding of how the broader social context of industry and industrial relations shape a safety culture in the workplace, our understanding of the implications for OHS promotion is impoverished.

RESEARCH DESIGN AND METHODS

The method of participant-observation was selected for the present study because it is well suited, for reasons described above, for eliciting views of risk in the context of everyday work. It provides a powerful and sensitive means to explore social meanings of risk in worksite settings and to develop theoretical insights into links between safety climate and safety culture on which strategies for OHS promotion may be based. Participant-observation is a practical method for construction industry settings, particularly as it allows a 'white-collar' woman to watch and record everyday work activities and behaviour in a 'blue-collar', male dominated industry. The naturalistic style of participant-observation allows research observations to be made whilst employers and employees were at work in their workplaces with minimum disruption. From the point of view of employers who control access to the worksite, it permits both employers and employees to contribute to research without having to take time off work that would result in loss of earnings or productivity.

Data was collected from fourteen key informants (seven employers and seven employees) and from forty two other informants. The data consisted of written notes of observations of informants' activities, conversations and social interactions at work. The data was supplemented by informal interviews with informants²⁶. Between 3 - 5 days was spent in the workplace with each key informant. Observations were

made during 57 visits to fourteen principal work settings and 20 other locations of the Victorian painting industry.

A stratified purposeful sampling strategy²⁶ was used to select key informants, with the assistance of the Painters Union (representing employees and now part of the Construction, Forestry, Mining and Energy Union) and the Master Painters Association (representing employers). The sampling strategy followed three steps. First, the two organisations identified four representative sectors of the industry. Secondly, each organisation, taking into account size of business, and cultural backgrounds of their membership, nominated 1 - 2 individuals for each sector. Thirdly, participation was negotiated with potential key informants. Entry into the field setting was thus made through key informants. Fourteen ethnic backgrounds were represented amongst participants. English was spoken as a second language by participants from ten of these backgrounds.

Fieldwork notes were subjected to thematic analysis^{29,30}. Thematic analysis of qualitative data is an iterative analytical process. It begins with a preliminary identification of themes that emerge from the data that may explain participants' understandings of risk in OHS by looking for common patterns of participants' experiences and explanations of their working lives. These preliminary themes are subjected to rigorous testing through re-examination of the data specifically for evidence that contradicts the preliminary themes. Outcomes of this process are the rejection of some preliminary themes and the reconceptualisation of others. The final results are a set of themes that provide a consistent and systematic explanation of participants' understandings of risk in OHS. In this study, the software programme 'The Ethnograph' was used to assist in the management of data³¹. The narrative form is employed in this study because it offers a means of making sense of complex, often contradictory, lived experiences and actions in other people's lives³².

RESULTS: NARRATIVES OF RISK

Two common themes threaded the narratives of risk of employers and employees. The first was an understanding of their industry as a hierarchical social structure in which power to both produce and control risk was vested in those at the top. The second was a model of risk control that focused on individual protection through 'safe' behaviour rather than prevention through safe workplaces and relied on individual skills and responsibilities. The major differences between the two groups emerged in relation to how they viewed their relative positions within the hierarchy and the extent to which they believed their individual efforts would protect them from risk. In the following sections, we describe the specific narratives of the two groups, firstly for employers and then for employees.

Employers' narratives

The production of risk in OHS

Employers' narratives of risk were shaped largely by the economic environment of the industry. In this context, experiences of risk were woven into stories of bankruptcy, recession and the elusively lucrative contract. To manage and make sense of risk within this social context, employers pointed to three sources of risk at work. These were embedded in the hierarchical social structures of the industry, and are listed in Table 1, below.

Table 1: Sources of Risk - Employers and Employees

EMPLOYERS	EMPLOYEES
Powerful organisations	The boss
Rival businesses	'Careless workers'
Workers	Tools of the trade

Source: Holmes & Gifford 1997

The first source of risk was organisations with the power to control the industry and business practices, particularly government agencies and large construction companies. Government agencies were perceived

to have power over the way that individuals ran their businesses and were seen as an unfair threat through the imposition of fees and regulations, for example, legal requirements for OHS and record keeping requirements for taxation purposes.

Large construction companies were seen to control the industry through a chain of payment from the builder who contracts out components of building work to the contractor companies who employ tradesman and sub-contract further to individuals or very small businesses ('subbies'). The large companies thus represented both a source of business income and a source of risk to employers. Employers explained that if the builder withheld payment, they would be unable to purchase more paint stocks and as a result, be unable to continue their painting businesses. Roger, the site manager for a large construction company, reinforced this message to Quentin, a small business employer, when the former complained about the slow pace of work. He said:

“Other than push, push, push, rant and rave, what can you do? The guy who holds the cheque book in one hand, holds the whip in the other. That’s my philosophy! Still, I can always pay as slow as they work. Slower, in fact!”

The second source of risk came from rival painting businesses that operated at an equivalent level of influence in the industry. Rival businesses ('the Opposition') were a source of risk because, in a tough economic climate, fewer tenders were available and competitive tendering had pushed hourly rates lower and resulted in reduced profits. According to the employers in this study, skilful business management was demanded to avoid losing contracts to business rivals.

The third source of risk occupied a special space in the employers' rogues' gallery of risk - bad employees. They were sources of risk because their mistakes and their injuries were interpreted as financial costs to the employer. Many of the employers in this study were particularly resentful of workers compensation costs and some accused employees of fraudulent manipulation of the system.

Employers contrasted bad employees with good employees - the "safe workers". The latter were skilful painters who avoided costly accidents by taking individual action and responsibility. Employers often illustrated how individual action and responsibility should be taken by references to personal protective equipment. Through this narrative, employers revealed how they devolved responsibility for OHS to their employees and interpreted occupational disease or injury as the fault of the employee who failed to behave 'safely'. Felix illustrated the point when he explained a scenario he planned to use in training sessions: "The message is that if you don't do it right, it will kill you". He continued,

“If a painter is on site just carrying his hard hat in his hand because he didn't want to wear it because he said it was uncomfortable, and something does fall and hits him on the head, and he dies - this isn't likely to happen, but it could - then in the coroner's court there will be the foreman and the supervisor and I'll be there as manager, and over there will be the family bawling their eyes out because the guy is dead. It's going to be the foreman and the supervisor the coroner is going to look at, not me, because they didn't make the guy wear his hard hat!”

The control of risk in OHS

Skilful business management was the best protection against risk, according to employers who described themselves as experienced managers and canny in the ways of an industry in which the unwary were unpaid. Their explanations of risk and its control constructed and maintained a sense of confidence that risk would be controlled through business skills and of themselves as "safe bosses".

Employers' explanations of risk protection reinforced the role of employees as a key risk source. Employers argued that if they, as individuals, could manage and control their risk by using their skills, then so could employees. Consequently, risk to employees' health and safety must be due to the failure of employees to apply their own skills adequately.

Employees' narratives

The production of risk in OHS

Like employers, the employees in this study identified three sources of risk in OHS embedded in a hierarchical social structure of industry (see Table 1). However, unlike employers, the employees' narratives made explicit links between the contexts of their worksite experiences of risk and of the economic experiences of their employers.

The first source of risk were social groups who were understood to have both power and responsibility to control risk at the worksite, particularly employers. For example, Oscar, a painter who had survived a bad fall described its cause as: "Stupidity from those higher up the hierarchy". Oscar said that he had been given a rope for the bosuns' chair which was, in his opinion, too old for safe use so he demanded another one. He explained that he hadn't known that the second rope had been used previously in a chemically contaminated environment. It looked quite new but was rotten, and broke whilst Oscar was suspended four storeys above ground. He indicated where the back of his head and his back were "split open". "Safety", said Oscar, nearly spitting with anger. "Come here and I'll give you safety", he told them with his fist raised and shaking to show how he felt about management's concern for his welfare.

A second source of risk were the 'careless workers' who were perceived to be a danger to themselves and others through their apparent failure to take personal responsibility for risk control. The employees' understanding of their colleagues as a source of risk and their responsibilities was complex. Stories of accidents involving 'careless workers' were debated and dissected at 'smoko' time (rest breaks) to tease out the individual responsibilities of employers and employees. These discussions often revealed that even the most skilful and "safe worker" often had limited power to control risk.

The third source of risk was the painters' 'tools of the trade', both chemical and mechanical. Employees understood this source of risk in two contexts. First, the 'tools of the trade' were linked directly to symptoms and experiences of ill-health, injury and uncertainties about unknown health outcomes that may be experienced in future. For example, Neville who is in his early fifties confided that "it must have affected me" because "it goes through your body. I feel OK now, but you don't know".

In the second and broader context, the 'tools of the trade' were provided by the employer operating within his concern for economic risk. Employees understood that the employer controlled economic risk by, for example, hiring unsafe equipment because it was cheaper. However, the employer's priorities were unchallenged by employees. They explained that they understood how difficulties within the business environment had led to their employers' decisions. For example, Mick acknowledged his understanding of his employer's position when he explained why he was castigated severely for the actions of another painter. Mick said:

"Yeah, well like I'm the kind of senior foreman. I'm really like in charge of the outside, but I'm really like 'It' for all of it....it's the boss's priority to get the inside done, and it is really the boss's money....you just grin and bear it. He's paying the wages. The worst they can do is put you off. It's like that in this industry."

The control of risk in OHS

Like employers, the employees' focussed on their own skills as a means of protection against risk. A "safe worker" was described as a skilled painter who utilised his trade skills to expertly manipulate the 'tools of the trade' and avoid controllable risks at work. The employees in this study were proud of their trade skills. Some, like Ben, preferred to be employed in smaller companies because they believed their trade skills would be valued more highly by a small business employer than a large one. "With the big companies too, you're just a number and there's nothing worse than being just a number", Ben explained.

The employees' explanations of risk protection through skill could be seen to have two contradictory effects. Firstly, these helped to define the characteristics of trade skills and reinforced employees' confidence in their skills of manipulation of the worksite environment. By focussing on mastery of skill, employees constructed a collective reassurance that the worksite environment was manageable, and that they could therefore protect themselves from risk.

A second effect of these explanations stemmed from the employees' understanding of the economic context of risk. In this context, trade skills were viewed as offering limited protection against risk. This understanding was reinforced when employees saw their trade skills devalued by the employer's actions to control his own risk. They explained that demands to work faster resulted in poorer quality of trade work and savings for their employer. As Conrad, a painter, explained:

"That's the problem these days in painting. They don't give you the time to do the job properly. They want you to do it quickly, and then they say you haven't done a good job!"

DISCUSSION

Employers in this study positioned themselves at a mid point of the social structure between the more powerful government agencies and construction companies and the less powerful employees. They believed that the former imposed economic risks on them by requiring that certain conditions of business, including responsibility for OHS on site, were accepted. Employers believed that they had little choice but to accept these imposed risks because refusal to comply with the powerful organisations' demands brought the greater risk of bankruptcy. Employers felt that they had little power to control risk from powerful organisations and so they shifted their focus to other sources of risk.

Employers hoped to control economic risk at the expense of their business competitors by skilful business management. However, rivals operate on similar levels of power within the industry hierarchy so business skills provide only marginal advantages. Employers recognised that other means to control risk effectively were needed and they shifted their focus to employees' behaviour. This focus was reinforced by their view that ultimately individuals were responsible for risk and its control in OHS. For the employers in this study, good safety culture meant "safe" workers.

These findings are consistent with the findings of Eakin's (1992) ethnographic study exploring relationships between social aspects of work and the understandings of OHS among a sample of 53 Canadian small business owners and employers²⁰. Eakin found that they understood OHS in the limited terms of unsafe worker behaviour and did not attach significant meaning to concepts of safe workplaces and systems of work. In this context, the small business owners and employers viewed OHS as primarily the responsibility of the individual employee.

Employees expressed a fatalistic pessimism, rooted in their understanding of their social position at the bottom of the industry hierarchy, that they would be protected from risk. In this study, employees interpreted their experiences of risk within two, intertwined contexts; the worksite and the economic context of the employer. Employees' narratives revealed that they embraced a model of individual responsibility for risk at the worksite through skilful manipulation of the 'tools of the trade'. Like employers, they accepted a safety culture based on "safe workers". However, they also saw limits to their capabilities to protect themselves from the consequences of risk in OHS. Employees understood that risk was created on the building site when employers acted to control their own economic risks. In this study, employees interpreted their employers' behaviour as an abdication of responsibility that shifted OHS risk unfairly to employees. This understanding fosters both a sense of powerlessness within the hierarchical industry structure and an acceptance of the normality of risk in the worksite. For the employees in this study, there was no such thing as a "safe boss" and "safe workers" had little power to control risk in OHS.

CONCLUSION

The social meanings of risk revealed by the employers' and employees' narratives have three important implications for OHS policy and practice. First, the meanings of risk help to explain why OHS promotion strategies that focus solely on individual behaviour change in this blue collar, small business industry are unlikely to be successful. Employers' understandings of risk in OHS allow them to devolve responsibility for OHS and place blame for occupational disease and injury on those beneath them in the industry hierarchy, their employees. When employees fail to respond to OHS promotion strategies 'correctly', employers will continue to blame them. For employers then, the barriers to OHS promotion lie primarily in the apparent refusal of employees to accept responsibility for OHS and behave as "safe worker". In contrast, the barriers to OHS promotion for employees lie in the limitations of "safe workers" to control

risk in OHS and in their lack of faith in “safe bosses” i.e. those who are seen to have the power and responsibility to control risk in OHS.

Secondly, the meanings of risk indicate that conflict will emerge over OHS promotion strategies that focus solely on technical measures of risk control. Technical measures represent risk to employers because their experiences of risk are in the economic context. The strategies are therefore likely to be interpreted as counter measures for risk. Employees may welcome technical strategies, but because they feel powerless as individuals, the strategies would be interpreted as idealistic.

Thirdly, neither employers nor employees are likely to view OHS strategies that advocate social change as the sole means to control risk in OHS as achievable. Both groups share understandings of a power hierarchy in their industry that places them at the lowest levels and both believe that individual work skills are ineffective against sources of risk more powerful than themselves. Consequently, a strategy that proposes social change would also be understood as unrealistic.

In sum, the findings of this study revealed that a safety culture based on notions of ‘safe’ workers and ‘safe’ bosses who accept and implement full individual responsibility for risk in OHS constructs conflicting meanings of risk among employers and employees. The safety culture described in this study impedes OHS promotion strategies that rely solely on one approach to risk and its control in OHS. A more sophisticated strategic approach that embeds risk control measures from technical and psychological approaches within an explicit social strategy to change safety culture will be needed to promote OHS in small, blue collar industries.

Finally, this study demonstrates the value of using research methods designed specifically to explore cultural factors by offering insight into social meanings of two safety climate factors. These factors are firstly, employee perceptions of their employers’ commitment to OHS demonstrated through actions and attitudes towards risk control and secondly, employee involvement in OHS. Dedobbeleer and Beland (1991) speculated that employee perceptions of risk and its control are related to their views about responsibility for risk and its control¹⁶. The present study presents empirical data to support their speculation. Inadequate control of risk in ways that employees in this study understood to be responsible and effective led them to believe that management had no commitment to OHS. These perceptions may lead, in turn, to an increase in unsafe work practices among employees³³ and thereby help to reinforce the employers’ view that OHS is primarily the responsibility of employees.

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