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# Innovative workplace change: social well-being and health

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# Innovative workplace change: social well-being and health

## **Abstract**

Since the industrial revolution a chief concern of business organizations has been how best to organise work to maximise productivity and minimise costs. Securing and maintaining competitive advantage through new methods of work organization and systems of operation have largely centred around commercial and financial concerns rather than on the well-being of employees. Issues of occupational health and safety (OHS) have arisen in a range of working environments and legislative change has sought to ensure that safe and secure working conditions are a mandatory requirement of modern business. However, implementation of these mandates generally rests with management and whilst procedural regulations are broadly adhered to, more innovative solutions to OHS issues at work have been largely absent. The main argument of this paper is that traditional thinking and reactive policies to health issues at work have limited the development of innovative solutions to improve the well-being of people at work. We contend that the more recent interest in notions of social innovation, social entrepreneurship and social business, provide an opportunity to rethink approaches to, and our understanding of, occupational health and safety management in organizations. We commence our discussion by considering the emphasis in industrial production on the organization and control of work in the push for ever greater performance (and profits), often at the expense of the well-being of employees at work. We then turn attention to studies that have considered the social aspects of work and we consider the new and emerging concept of social innovation. In the final section, we forward a more holistic model of OHS for improving the conditions and well-being of employees in work settings. We conclude by calling for further research on social innovation and the management of OHS in the pursuit of sustainable healthy work environments.

## **Keywords**

being, well, health, social, innovative, workplace, change

## **Disciplines**

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## **Innovative Workplace Change: Social Well-being and Health**

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## **Innovative Workplace Change: Social Well-being and Health**

### **Introduction**

Since the industrial revolution a chief concern of business organizations has been how best to organise work to maximise productivity and minimise costs. Securing and maintaining competitive advantage through new methods of work organization and systems of operation have largely centred around commercial and financial concerns rather than on the well-being of employees. Issues of occupational health and safety (OHS) have arisen in a range of working environments and legislative change has sought to ensure that safe and secure working conditions are a mandatory requirement of modern business. However, implementation of these mandates generally rests with management and whilst procedural regulations are broadly adhered to, more innovative solutions to OHS issues at work have been largely absent. The main argument of this paper is that traditional thinking and reactive policies to health issues at work have limited the development of innovative solutions to improve the well-being of people at work. We contend that the more recent interest in notions of social innovation, social entrepreneurship and social business, provide an opportunity to rethink approaches to, and our understanding of, occupational health and safety management in organizations. We commence our discussion by considering the emphasis in industrial production on the organization and control of work in the push for ever greater performance (and profits), often at the expense of the well-being of employees at work. We then turn attention to studies that have considered the social aspects of work and we consider the new and emerging concept of social innovation. In the final section, we forward a more holistic model of OHS for improving the conditions and well-being of employees in work settings. We conclude by calling for further research on social innovation and the management of OHS in the pursuit of sustainable healthy work environments.

### **Business Innovation and Work Organization**

Business innovations are usually associated and linked with the translation of new ideas and ways of doing things into commercially viable products or services. Financial gain has been at the forefront of innovation and change with scant regard to the plight of workers and the health risks of working long hours in poor working environments. The main focus has been on how to best structure organizations and make effective use of machinery in the drive for increased profitability and company profits (see, Rose, 1978). The new industrial entrepreneurs used their prerogative to decide the type, speed and direction of change and were often authoritarian in their approach (Dawson, 2003: 26-28).

With the growth of factories, new methods for organizing work were adopted which followed the early division of labour principles put forward by Adam Smith (1776) in his book *The Wealth of Nations*. Smith used the well-known example of pin making to demonstrate how through distributing tasks to workers (an employee would constantly perform one simple task rather than doing all tasks required to make a pin) output could be significantly increased. Early in the 20<sup>th</sup> century Frederick Taylor championed the application of the scientific method to the study, analysis and problem solving of organizational problems. He believed that through the systematic study of work it would be possible to identify (taking into account such factors as the tools used, physical characteristics of workers, physical motions employed, time taken and the type of material or machine being used) the best way of performing a task. Taylor argued that this information could be used to redesign

organizational structures to ensure that employees worked to their full capacity. Although there is considerable debate on the extent and uptake of scientific management, Taylorist forms of work organization can still be found in various guises throughout the industrialized world and his principles have further influenced the development of change theories. For example, some of the problems associated with Taylorist forms of work organization have been tackled by human relations theory and the more participative change strategies advocated by the field of organizational development (French and Bell, 1995). In other cases, some change initiatives such as Business Process Re-engineering (BPR) (Hammer and Champy, 1993) have been accused of simply re-introducing a technology-mediated form of Taylorism based around the enabling characteristics of new information and communication technologies. In the words of Hugh Willmott: 'the silicon chip plays an equivalent role in BPR to that performed by the stop watch in Scientific Management' (Willmott, 1995: 96).

This approach to industrial engineering and the design of work has largely ignored or paid lip service to the longer-term occupational health and safety implications. Although there are examples of innovative workplace change arrangements that have sought to improve conditions of work (most notably in the Scandinavian countries), many of these have been short-lived, exceptional or largely focused on problems of ergonomic design (see Bohle and Quinlan, 2000). The work of Myers (1929: 14) on industrial fatigue was influential in highlighting the need to improve conditions at work, as were the Hawthorne studies in drawing attention to the importance of social processes to the lived experience of work to be conducted (Roethlisberger and Dickson, 1950), and yet, active concern with occupational health and safety has largely been tackled by various forms of legislation rather than with the active development and implementation of social innovations to improve the well-being of employees in work settings (Bohle and Quinlan, 2000).

### **A Sociological Perspective on Health and Work**

In turning attention away from highly individualised notions of health, sociological studies draw attention to the context in which behaviour patterns occur and are reinforced, and to the importance of social relationships. The failure of prescriptive programmes – based around the individual – to effectively deal with problems of occupational illness and injury and the tendency to see the fault as resting in the behaviour of the individual rather than social factors, highlighted the need for broader sociological research (Bohle and Quinlan, 2000).

A classic interest of sociologists is with the distribution of wealth, class and occupation (Clegg and Dunkerley, 1980) and this concern has spilled over into comparative studies of health and mortality rates among different social classes and occupations (see, Davis and George, 1988; Bohle and Quinlan, 2000: 101-111). For example, Johnson (2004) argues that social class is a strong predictor of the propensity to suffer from chronic and other forms of health related diseases. He notes how the upper classes not only live longer, but tend to be healthier (suffer from less illness) during their lifetime. There is a type of health gradient that has been identified that crudely demonstrates how health deteriorates with lower social status and conversely improves among the higher social classes (Marmot, Rose, Shipley and Hamilton, 1978; Lynch and Kaplan, 2000). Link and Phalen (1995) claim that social class is a fundamental determinant of health. Those in lower social classes are seen to have less access to good educational and health facilities, are more likely to live in areas that may have poor environments (housing, air pollution, heating and so forth) and ones in which violence and the availability of drugs is common (Evans and Kantrowitz, 2002). This broader sociological perspective has also been applied to the study of illness and injury in the

workplace. These studies spotlight problems with conventional models of occupational health that have failed to achieve their intended objectives of alleviating the causes of workplace injury and illness (see, Dwyer, 1991). Criticism is levelled at prescriptive attempts to tackle occupational injuries through programmes that seek to modify individual behaviour. Attention is focused on the social causes of ill-health and injury and in particular, on patterns of work and forms of work organization (Dwyer, 1991). The negative health effects of non-standard work patterns, including shiftwork and extended hours have been well documented and are now regularly taken up by groups that represent employees, such as, trade unions and other work associations. For example, the Workers Health Centre, established in Australia in 1976 to improve health and safety at work, lists in its facts sheet some of the health implications of extended hours and shiftwork. These include: increased heart disease, gastric ulcers and gastro intestinal problems, social problems and minor psychiatric disorders, sleep disorders and increased fatigue and increased error rates and accident rates (Workers Health Centre, 2004).

Research by sociologists has shown how the system of work organization can be a major cause of occupational injury and employee ill-health (Dwyer, 1991). Work schedules, payment systems, technical, bureaucratic and personnel control systems, have been identified as elements that need to be taken into account when studying and making policy decisions on occupational health and safety at the workplace. For example, Bohle and Quinlan (2000: 104) illustrate this point well in their example of payment systems based on production bonuses where the use of safety devices, such as gloves and glasses, can restrict output potential and consequently, workers may choose not to wear such devices in order to secure a production bonus. Since the 1970s, the right of workers to know the hazards that they face at work has been increasingly accepted and embedded in OHS legislation. In facilitating employee involvement, ensuring appropriate training and providing industrial back-up, unions have played a key role and historically, matters of OHS have been the centre of a number of industrial disputes. Bohle and Quinlan (2000:441) show how over 20% of disputes in Australia were related to concerns over the physical working conditions.

Whilst sociological studies of health and illness and industrial relations research have redirected attention away from psychological determinants towards social causes, this has resulted in a tendency to overlook the value of more multi-disciplinary approaches to understanding OH&S. There is certainly an argument to be made that neither approaches are sufficient by themselves, as studies that take a psychological or sociological perspective can both provide useful and complimentary lens from which to further identify, recognise and explain issues around health and safety at work. As Glendon, Sharon and McKenna (2006:2) usefully summarise:

As part of the general critique of technical approaches to OHS, including the medical model, and ergonomics for its individual approach, managerial orientation and apparent unwillingness to consider the broader picture, Bohle and Quinlan (2000) are similarly critical of psychologists' contribution to OHS as being overly focused on individual factors in accident causation, having a management orientation and developing victim-blaming models. Sociologists, on the other hand, blame the system, perceive injury as inherent in the nature of work, and address conflicts of interest as a fundamental aspect of OHS. Compartmentalizing the contribution of various disciplinary areas risks labelling each too rigidly and ignores the potential for a more eclectic approach.

Bohle and Quinlan (2000: 110-111) also indicate their surprise that little attention has been given to the broader socio-political context and the effects of organised labour resistance and state intervention on occupational health, or to the impact of gender relations and in particular, of sexual harassment and the sexual division of labour. Furthermore, Stephen Deery and colleagues (Deery, Iverson and Walsh, 2000) draw attention to the intensification around stress and anxiety inducing 'emotional labour'. They highlight how employees are increasingly expected to display emotions that comply with organizational expectations. In their call-centre study, they show how the greater the incidence of having to deal with abusive customers the higher the incidence of absenteeism (Deery et al, 2000). Thus, whilst sociological studies have usefully contributed to our understanding of social causes, there remain areas that require further research and investigation and approaches that can bridge the psychological and sociological divide might further our understanding of OHS management in organizations. We contend that social innovation may prove a useful approach in linking some of the previous concerns into a more holistic model in the management of occupational health and safety in work settings.

### **Innovative Approaches to OHS: The Social Dimension**

There is a growing interest in the emerging concept of social innovation and as with all new developments, there is a lot of confusion and ambiguity around what is meant by the term 'social innovation'. In a special edition of the International Journal of Technology Management, Dawson and Daniel (forthcoming) note that:

Whilst business innovation remains rooted in the world of commerce and competition, social innovation has as a starting point the notion of social well-being and public good and seeks to benefit people in organisations, communities and society through direct and collateral outcomes of achieving greater social good. While social innovations attempt to resolve economic, social and environmental challenges rather than simply provide market rewards, what is defined as a social goal is itself shaped within social collectivities and by socio-political processes. We suggest that a useful working definition is as follows: *Social innovation refers to the process of collective idea generation, selection and implementation by people who participate collaboratively to meet challenges to improve the social well-being of people in organisations in work and society.* These ideas are owned by people who work together in pursuing social goals that may- but need not – service other organisational, technical, commercial or scientific goals.

There is rising public support for this emerging concept of social innovation. For example, in January 2008, a UK initiative was born in the upstairs room of a London pub where the participants set about establishing a network that would support people coming together over the web and in person in co-ordinating activities for social benefit (see, <http://www.designingforcivilsociety.org/2007/10/new-uk-initiati.html>). Similarly, the Centre for Social Innovation (CSI) at Stanford University aims to support social innovators in providing knowledge and expertise to facilitate their endeavours to champion social change. On their web site, the CSI provides a range of resources and information on conferences, conversations, papers and discussions around a range of topics including: socially responsible business activities, non-profit organizations and issues such as how to develop socially and environmentally responsible supply chain practices that can lead to overall improved business performance and strengthen organizations (<http://www.gsb.stanford.edu/csi/>). For this group, social innovation is more than invention; it is about social change that creates large-scale

lasting positive effects. Other groups with comparable labels, such as, the Centre for Social Innovation in Toronto, Canada, is seen as a social enterprise with a mission to catalyse social change (<http://www.socialinnovation.ca/>); whereas the Lien Centre for Social Innovation in collaboration with the Singapore Management University (SMU) sets out to encourage and facilitate greater entrepreneurship, idea generation and innovations that address social needs and the common good (<http://www.smu.edu.sg/centres/lien/>).

From these sources, it is clear that social innovation is a wide ranging and developing concept that embraces improving the health and well-being of people in society. This broad definition covers all areas of life including the plight of people in war-torn countries, nations suffering from draught, famine and political unrest, the poor and unemployed living in socially deprived areas through to concerns of family violence, non-profit organizations and the production of good and services that are not harmful to the environment. Charles Handy talks about the rise of the new philanthropists (social entrepreneurs) who do not simply donate money but get actively involved in tackling the social needs of the less fortunate. In outlining the work of four such individuals, Handy describes how Jeff Gambin, a restaurateur in Sydney, gave up his up-market businesses to cook for the homeless every night and who now feeds 500 people each day.

From our perspective, we can use this concept of social innovation to examine the workplace in addressing issues of occupational health and safety. Our main concern is with new models, concepts and ideas for understanding OHS that can lead to potential improvements in the safe working conditions and health of employees. As such, our attention is on the process of social innovation in OHS within organizations. We argue that despite various governments' efforts at publicly regulating through assigning primary responsibility for its control to employers and their managers in organizations, the major problems of industrial death, injury and disease continue unabated. Formal regulations and bureaucratic procedures reflected in organizational documents that espouse a commitment of OHS, have done little to improve organizational performance in this area. Support for bureaucratic OHS systems has created what Weber (1958) might refer to as the *iron cage* of control that limits outward thinking and organizational innovativeness. For example, the early work of Zaltman, Duncan and Holbek (1973) highlighted how the decision to introduce a new system was different to putting an innovation into use. Similarly in OHS, systems are adopted but it is lack of research interest and understanding in how they are used and how they could be used, that is missing. There is a failure of interest and understanding and in consequence, a lack of innovativeness in seeking ways of improving OHS at work.

In promoting innovation and innovative approaches to OHS, there is first a need to identify and prioritize OHS as problem that needs tackling. Social innovations do not occur as a single event but represent complex political processes among a range of individuals and groups. As Bessant and Tidd (2007) continuously emphasise in their book on *Innovation and Entrepreneurship*, innovation does not simply happen, it is a process which needs to be organised and managed. For example, Walker (1977) highlights how those who were able to shape the U.S. legislative agenda influenced how new safety laws were passed by the U.S. Senate. This indicates that there is first a need to spotlight and draw attention to the importance of the issue, before considering how to progress. The process of social innovation in OHS emerges over time from agenda setting and some initial conceptions and considerations, through to the search and assessment of options, implementation and adoption and use, towards the more routine daily operation of new workplace practices (Dawson, 1994: 45-6). This process twists and turns. There is a need to transform new ideas into



reality, to draw on different resources and knowledge in developing a clear direction for change, to communicate and debate change to gain support, enthusiasm and commitment, and foresight and energy to follow through in the implementation and use of social innovation in OHS (Bessant and Tidd, 2007: 310).

Another element worth considering in our examination of social innovation and OHS, is the issue of the 'equality in the consequences of innovations' (Rogers, 1995: 429-422). Although Rogers' concern is with innovation in general, he usefully demonstrates how innovations can have desirable-undesirable, direct-indirect, and anticipated-unanticipated effects. Even with the best intentions behind change – often associated with the notion of social innovation - change can have consequences that are not foreseen and may worsen the position and well-being of those they were seeking to improve. In using a case illustration from the anthropologist Lauriston Sharp (1952), Rogers draws attention to the unanticipated and dire consequences of the adoption of steel axes by a tribe of Australian aborigines. The nomadic trip of the Yir Yoront used a stone axe as their central tool for building shelter, providing food and fuel; it was a symbol of masculinity and respect for elders. With the intention of improving the living standards of the Yir Yoront, missionaries distributed steel axes equally to men, women and children. As Sharp (1952: 92) notes:

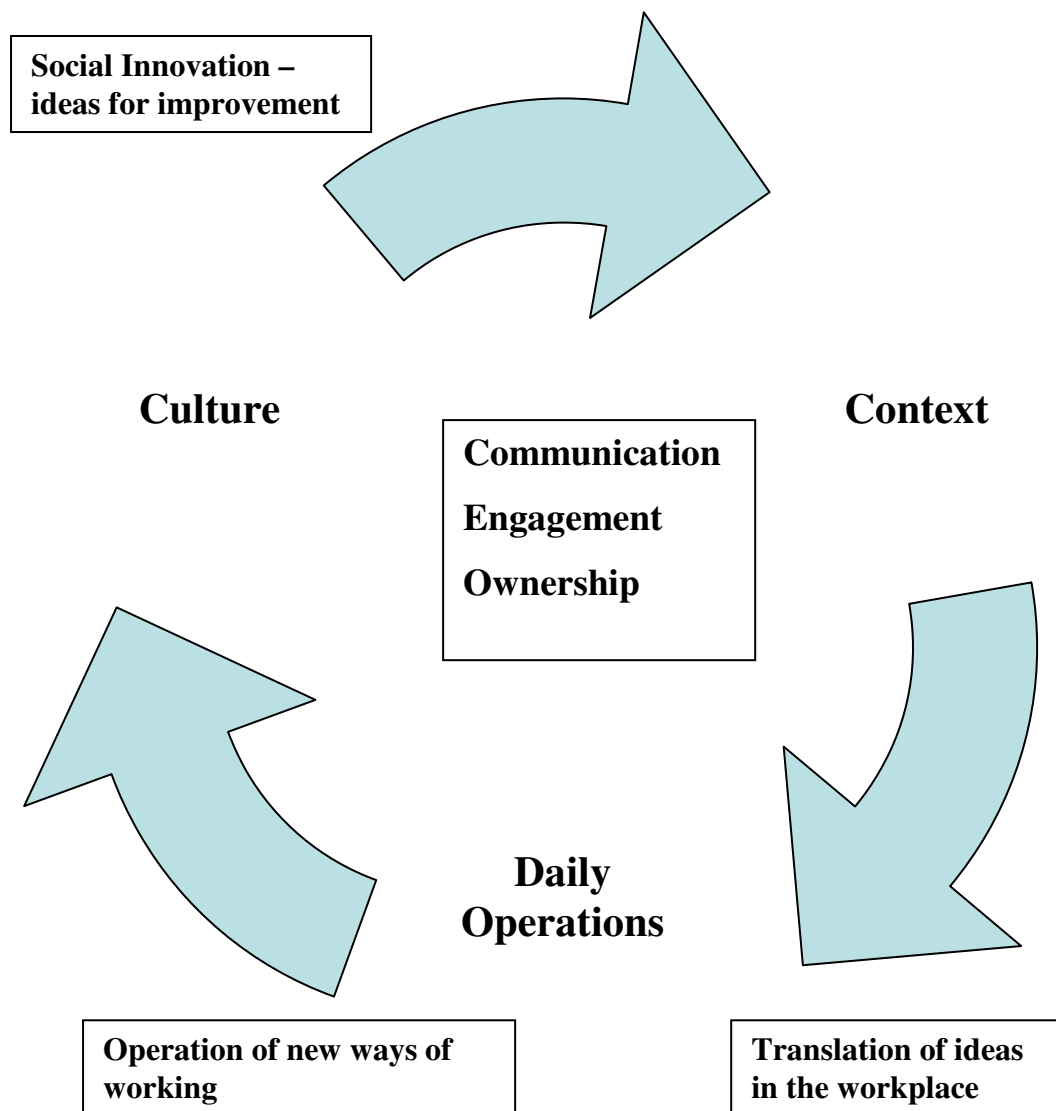
The result was a disruption of status relations among the Yir Yoront and a revolutionary confusion of age and sex roles. Elders once highly respected, now became dependent upon women and younger men, and were often forced to borrow steel axes from these social inferiors...The religious system and social organization of the Yir Yoront became disorganized as a result of the tribe's inability to adjust to the innovation. The men began prostituting their daughters and wives in exchange for the use of someone else's steel axe.

In our concern with OHS at work, we contend that within many mainstream companies, managers are not managing OHS effectively. This neglect is reflected in the mainstream management and human resource management research literatures, where a longitudinal review of key journals showed an almost complete absence of scholars considering OHS management in organizations. As expected, there is much more research on OHS management reported in the broader social science and applied science literatures, although this is largely atomistic in nature. Thus there is a need to raise the profile of OHS and to consider new and innovative ways of developing OHS to improve the well-being of people at work. Towards this end, in the final section we develop an holistic organizational model of occupational health and safety management. This contextualised analytic framework includes institutional and technical (product-market) environments, as well as organizational cultural, historical and political factors that influence the bundles of OHS management policies and practices created and implemented to secure effective OHS and organizational performance.

### **Towards a model for OHS management**

In developing a model for OHS management, we aim to start not from either the psychological and social causes of OHS but with the context and culture within which OHS can best be managed in the pursuit of employee and organisational well-being. This agenda turns attention away from an individual based model – that tends to blame the victim – and from a social based model – that tends to blame the system – towards a model that draws on the idea of social innovation. The aim is to rethink how to approach the management of OHS both within existing systems of work organization and in the development of new forms of work organization and job tasks. In both cases, the agenda needs to move away from blame

or just financial gain towards strategies that have social improvement as well as individual and organizational well-being as a central aim. In translating these ideas into practical change programmes within existing organizations, an understanding of the cultural and contextual conditions, as well as current operational practice, is essential. A movement away from procedural reliance, individual blame or an off-loading of responsibility away from all employees towards a group (management) or those that occupy or a particular role (health and safety representative) provides a useful starting point. Communication, engagement and ownership are well-banded words but difficult to operationalise in practice to bring about real change in the safe conditions of work and the health of employees. A representation of the model we propose is presented in Figure 1 below.



**Figure 1: Social Innovation and OHS**

The intention is to draw on existing knowledge and theory from all branches of social science in identifying novel approaches that seek to secure social innovations in occupational health and safety at work, and then to translate these ideas into operational practice through engaging all key stakeholders and through a process of continual communication and

feedback, modifying and revising implementation plans and operating practice. Ownership is a key element, not in terms of management responsibility, the need to conform procedurally to legislation, or in viewing health and safety issues as being the fault and responsibility of the individual workers, but in full ownership by all members of the organization and wider recognition by the owners and shareholders of companies.

Although the model we represent above requires further development and refinement, it does present a platform for rethinking how we understand, make sense of, and practically manage occupational health and safety within work settings that does more than comply to legislative change in engaging employees and management in strategies for improving and maintaining the health and well-being of people at work.

### **Conclusion**

In examining social innovation and occupational health and safety management, we have started to explore new areas of interest and new terrain for thought and discussion on how to improve the well-being on people at work. In the past, too much attention has been given to legislative change or to disciplinary based studies on work conditions and the health of individuals. Work psychology has provided useful information on the causes of stress and problems of employee tension and anxiety on work processes, productivity and industrial injuries. From this perspective, the means to reduce injury and ill-health is seen to largely rest with the individual. Thus prescriptions and policies rest on strategies and techniques that can change the behaviour of individuals to prevent the occurrence of accidents and to alleviate feelings of stress and anxiety within the workplace. In response to this, unions have negotiated over payment systems and conditions of work in an attempt to tackle the structural and work design aspects of occupational health and safety. Similarly, sociologists have investigated social causes (rather than psychological) behind problems of OH&S in particular types of work settings and organizations. They have been concerned with the pace and pattern of work, authority relationships and the control mechanisms imposed on employees during their daily work experience. However, writers such as, Bohle and Quinlan (2000) and Glendon, Shannon and McKenna (2006) point out that whilst all these social science discipline-based perspectives have contributed to our understanding of OHS at work, they are too narrow in their focus and in so doing, they argue for broader models that are more multi-disciplinary in presenting a more holistic view for the effective management of occupational health and safety. In an initial attempt to tackle this, we have presented a model that tried to accommodate context, culture, work organization, individual and group working. Although we recognise the limits to our initial conceptualisation, we hope that it goes some way to furthering discussion and consideration of this important, but largely neglected, area of study. Moreover, with the growing interest in social innovation, the time is perhaps ripe for re-examining way of organizing and managing work processes that improves the health of well-being of employees and is not simply geared to increasing productivity and financial gain of the senior executive and company shareholders.

### **References**

- Bessant J and Tidd J, 2007 *Innovation and entrepreneurship* John Wiley & Sons, Chichester.
- Bohle P and Quinlan M, 2000 *Managing occupational health and safety: A multidisciplinary approach, second edition*, MacMillan Publishers, South Yarra.
- Carey A. 1967 The Hawthorne Studies: A Radical Criticism, *American Sociological Review*, 32, 403-416.
- Clegg S and Dunkerley D, 1980 *Organization, class and control*, Routledge, London.

- Clegg S, Kornberger M and Pitsis T, 2005 *Managing and organizations*, Sage, London.
- Davis A and George J, 1988 *States of health: Health and illness in Australia*, Harper and Row, Sydney.
- Dawson P, 2003 *Understanding organizational change*, Sage, London.
- Dawson P, 1994 *Organizational change: a processual approach*, Paul Chapman, London.
- Deery S, Iverson R and Walsh J, 2000 Work relationships in telephone call centres: Understanding emotional exhaustion and employee withdrawal, paper to the *International Industrial Relations Conference*, February 2000, Tokyo.
- Dwyer T, 1991 *Life and death at work: Industrial accidents as a case of socially produced error*, Plenum Press, New York.
- Evans G.W and Kantrowitz E, 2002 Socioeconomic status and health: The potential role of environmental risk exposure, *Annual Review of Public Health* 23, 303-31.
- French W and Bell C, 1995 *Organizational development and change, 5<sup>th</sup> edition*, West Publishing Company, Minneapolis.
- Glendon A, Sharon C and McKenna E, 2006 *Human safety and risk management, 2<sup>nd</sup> edition*, CRC Press (Taylor & Francis Group), Boca Raton, FL.
- Hammer M and Champy J, 1993 *Reengineering the corporation: A manifesto for business revolution*, HarperBusiness, New York.
- Hatch M, 1997 *Organization theory: Modern, symbolic and postmodern perspectives*, Oxford University Press, Oxford.
- House J.S and Williams D.R, 2003 Understanding and reducing socioeconomic and racial/ethnic disparities in health, in *Health and social justice*, R Hofrichter (ed) Jossey-Bass, San Francisco, CA.
- Johnson J.V, 2004 *Work stressors and social class*, PhD, University of Maryland, USA.
- Kemery E.R, Mossholder K.W and Bedeian A.G, 1987 Role stress, physical symptomatology, and turnover intentions: a causal analysis of three alternative specifications, *Journal of Occupational Behavior*, 8, 11-23.
- Link B.G, and Phelan J.C, 1995 Social conditions as fundamental causes of disease, *Journal of Health and Social Behavior*, Extra Issue, 80-94.
- Littler C, 1982 *The development of the labour process in capitalist societies*, Heinemann, London.
- Lynch J and Kaplan G, 2000 Socioeconomic position, in *Social epidemiology*, L.F Berkman and I Kawachi (eds), Oxford University Press, New York.
- Marmot M.G, Rose G, Shipley M and Hamilton P, 1978 'Employment grade and coronary heart disease in British civil servants', *Journal of Epidemiology and Community Health*, 32, 244-9.
- Myers C, 1929 *Industrial psychology*, Thornton Butterworth, London.
- Pugh D.S, (ed.) 1990 *Organization theory: Selected readings, 3rd edition*, Penguin Books, London.
- Rechnitzer G, 2001 *The role of design in OH&S, discussion paper*, Safety in Action, May 1-3, Melbourne: Safety Institute of Australia.
- Roethlisberger F and Dickson W, 1950 *Management and the worker. An account of a research program conducted by the Western Electric Company, Hawthorne Works, Chicago*, Harvard University Press, Massachusetts.
- Rogers E, 1995 *Diffusion of innovations, 4<sup>th</sup> edition*, Free Press, New York.
- Rose M, 1988 *Industrial behaviour: Research and control, 2nd edition*, Penguin, Harmondsworth.
- Rose M, 1978 *Industrial behaviour: Theoretical development since Taylor*, Penguin, Harmondsworth.

Sharp L, 1952 Steel axes for stone age Australians in *Human Problems in Technological Change*, 69-72, E Spicer (ed), Russell Sage Foundation, New York.

Taylor F, 1911 *The principles of scientific management*, Harper, New York.

Weber M, 1958 *The protestant ethic and the spirit of capitalism*, Scribner's, New York.

Wikipedia location: [http://en.wikipedia.org/wiki/Social\\_innovation](http://en.wikipedia.org/wiki/Social_innovation)

Willmott H, 1995 The odd couple? Re-engineering business processes, managing human resources, *New Technology, Work and Employment*, 10, 2, 89-98.

Workers Health Centre, 2004 *Shift work and extended hours, Fact Sheet 043* (<http://www.workershealth.com.au/index.html>), Lidcombe, NSW, Australia.

Zaltman G, Duncan R and Holbek J, 1973 *Innovations and organizations*, John Wiley, New York.