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# Individual and social factors associated with workplace injuries

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#### **Abstract**

636,000 Australians injured themselves in a work-related injury in the period 2009-2010. Of these injured Australians, 88% continued to work in their same place, 5.2% had to change their jobs, and 6.9% were no longer employed. Men continue to be the most injured individuals in workplace injuries (56%) with the highest rates of injury in the 45-49 years (72 per 1000 people) and 20-24 years (63 per 1000 people) age groups. Furthermore, 59% of these 636,000 Australians injured in workplace injuries received financial assistance from workers compensation claims, 36% did not apply for financial assistance and 5% applied but did not receive any financial assistance. The most common types of workplace injuries incurred were: sprains and strains (30%), chronic joint/muscle conditions (18%) and cuts/open wounds (16%) (Australian Bureau of Statistics, 2010). The total economic cost from workplace injuries in Australia for the 2005-06 financial year was estimated at \$57.5 billion, representing 5.9% of GDP for the financial year (Australian Safety and Compensation Council, 2009). Workplace injuries also incur immeasurable personal costs to Australian workers and their families. Individual lives are altered, even lost; individual hopes and dreams of a better life are shattered. Family roles, responsibilities and relationships become strained due to changes in income earnings and the imposed challenging needs for increased social support and increased caring needs within the home due to workplace injury. Why do Australian workers get injured in their workplaces? Is it due to their individual worker factors, or is it due to social factors associated with their work and workplace? While individual worker factors, such as: gender, age, personality, ethnicity, and substance use, do contribute to workplace injuries and fatalities, broader social and organizational workplace factors, such as: workload, work hours, work environment, safety culture, provision of quality supervision, and provision of occupational health and safety training, socially structure, and influence individual worker attitudes and behaviours in workplace injury and fatalities.

**Keywords**: Sociology of work; workplace injuries; individual factors; social factors.

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#### Introduction

636,000 Australians injured themselves in a work-related injury in the period 2009-2010. Of these injured Australians, 88% continued to work in their same place, 5.2% had to change their jobs, and 6.9% were no longer employed. Men continue to be the most injured individuals in workplace injuries (56%) with the highest rates of injury in the 45-49 years (72 per 1000 people) and 20-24 years (63 per 1000 people) age groups. Furthermore, 59% of these 636,000 Australians injured in workplace injuries received financial assistance from workers compensation claims, 36% did not apply for financial assistance and 5% applied but did not receive any financial assistance. The most common types of workplace injuries incurred were: sprains and strains (30%), chronic joint/muscle conditions (18%) and cuts/open wounds (16%) (Australian Bureau of Statistics, 2010). The total economic cost from workplace injuries in Australia for the 2005-06 financial year was estimated at \$57.5 billion, representing 5.9% of GDP for the financial year (Australian Safety and Compensation Council, 2009). Workplace injuries also incur immeasurable personal costs to Australian workers and their families. Individual lives are altered, even lost; individual hopes and dreams of a better life are shattered. Family roles, responsibilities and relationships become strained due to changes in income earnings and the imposed challenging needs for increased social support and increased caring needs within the home due to workplace injury. Why do Australian workers get injured in their workplaces? Is it due to their individual worker factors, or is it due to social factors associated with their work and workplace? While individual worker factors, such as: gender, age, personality, ethnicity, and substance use, do contribute to workplace injuries and fatalities, broader social and organizational workplace factors, such as: workload, work hours, work environment, safety culture, provision of quality supervision, and provision of occupational health and safety training, socially structure, and influence individual worker attitudes and behaviours in workplace injury and fatalities.

## Individual factors associated with work place injuries

Gender is associated as a contributing individual factor in workplace injuries and fatalities. In particular, more males than females are injured and prone to workplace fatalities. In the period 2009-2010, 356, 229 men experienced workplace injuries in Australia. This amounts to 55.6% of the total number of reported work injuries (640, 700). The most common types of workplace injuries for men were: sprain and strains (30%), chronic joint and muscle

conditions (18%) and cuts and open wound injuries (16%) (Australian Bureau of Statistics, 2010). Furthermore, more males are represented in higher injury risk occupations. Of the 356,229 men who experienced work related injuries in the period 2009-2010, 30% were Technicians/Tradesman, 19% were Labourers, 15% were Machine Operators/Drivers, 18% were Manufacturing Workers, 16% were Construction Workers, and 10% were Transport/Warehousing Workers (Australian Bureau of Statistics, 2010).

The high representation of males in workplace injuries and fatalities raises some interesting questions: Why are men overrepresented in workplace injuries and fatalities? Do men cause higher rates of workplace injury and fatalities? Two sets of competing explanations are offered in current literature. The first explanation posits that men, as a gender category, engage in higher risk taking behaviours that results in higher workplace place injuries and fatalities (Berdahl, 2008; Brogmus, 2007; Islam, 2001). This view posits that men cause higher rates of injuries and fatalities due to their innate, essentialist gender based propensity to engage in higher risk taking behaviours. The second explanation posits that men, as a gender category, engage in higher employment in higher risk occupational sectors where higher workplace injuries and fatalities often occur (Gluck, 1998; Manchikanti, 2002; Smith, 2005; Sulsky, 2000). This view posits that it is not the men who cause workplace injuries, but that these men find themselves employed in high risk jobs and work environments that are more likely to cause higher rates of injuries and fatalities. The social nature and organizational factors of such high risk work environments exposes these men to higher risks and dangers related to workplace injuries and fatalities.

Age is associated as a contributing individual factor in workplace injuries and fatalities. In Australia, the highest rates of workplace injuries experienced by men were in the age groups of 45-49 years (72 per 1000 people) and 20-24 years (63 per 1000 people). The lowest age group for injured men was 65 years and over (30 per 1000 people) (Australian Bureau of Statistics, 2010). Work Safe Australia reports similar patterns in workers compensation claims for the period 2007-2008. The highest number of claims from injured workers for workers compensation were in the 45-49 years age group (13.7%), followed closely by the 40-44 years age group (12.4%) and the 35-39 years age group (11.6%). More injured males workers lodged compensation claims (88,865) than injured female workers (42, 245) (Work Safe Australia, 2011).

The high representation of workplace injuries and fatalities in the age groups of 45-49 years and 20-24 years raises the interesting question: Why are workplace injuries and fatalities concentrated in these two age groups? Two sets of competing explanations are offered in current literature in relation to the age-work injury relationship. The first explanation posits that worker age-maturity factor is related to workplace injury. This view posits that young workers lack workplace maturity, thus are more injury prone and, conversely, older workers are more mature in the workplace, thus are less injury prone (Chau, 2010; Sulsky, 2000). The second explanation posits that worker age related cognitive decline is related to workplace injury (Pisarski, 2008; Pransky, 2002; Rowell, 2010; Siow, 2011; Smith, 2005). This view posits that young workers are more cognitively able, thus are less likely to be injury prone in the workplace; and, conversely, mature aged workers are less cognitively able, thus are more likely to be injury prone in the workplace.

Personality is associated as a contributing individual factor in workplace injuries and fatalities. Two sets of competing explanations are offered in current literature in relation to the personality-work injury relationship. The first explanation posits that certain types of workplace injuries appear more frequently in workers with high risk taking personality patterns (Brockner, 1988; Cellar, 2004; Chau, 1995; Nelson, Cooper and Jackson, 1995; Smith, Kaminstein, & Makadok, 1995). The implicit assumption here is that such workers are hard driving, competitive, job involved, hostile, and willing to take adverse risks to achieve goals and outcomes. The second explanation posits that workers with perceived lower personal control over their work activities are more likely to suffer from higher rates of workplace injuries and fatalities (Burkhalter, 1999; Janicak, 1996; Korzeniowska, 2004; Yoon, 2007). Furthermore, it is suggested that measures of locus of control generally focuses on generalized perceived control: workers with a so-called internal locus of control believe their own behaviours are the primary determinants of what happens to them in the workplace, whereas workers with an external locus of control believe that external influences are more important determinants of what happens in their workplace. The implicit essentialist assumption made here is that internal worker perceived personal control over their work plays an important role in external worker injuries in the workplace.

Ethnicity is associated as a contributing individual factor in workplace injuries and fatalities. Two sets of explanations are offered in current literature in relation to the ethnicity-work injury relationship. The first explanation posits that 'ethnic' workers are more likely to suffer from higher rates of workplace injury and fatalities due to a lack of adequate education, skills and training, and effective workplace communication which results in higher operational and technical errors resulting in higher workplace injuries (Loomis, 1998; Oh, 2003; Richardson, 2004; Shannon, 2009; Sulsky, 2000). The second explanation posits that 'ethnic' workers have different cultural thinking styles and approach to workplace safety and that 'ethnic' workers are more task/volume oriented rather than safety/quality oriented (Walter, 2002; Flory, 2001; Johansson, 1999). The implicit essentialist assumption made here is that cultural based thinking style, approach to workplace safety and quality of task orientation contributes to higher rates of injury in the workplace for 'ethnic' workers.

Substance use is associated as a contributing individual factor in workplace injuries and fatalities. Two sets of explanations are offered in current literature in relation to the substance use-work injury relationship. The first explanation posits that substance use, such as alcohol and prohibited drugs, impairs worker judgement, reaction time and effective decision-making (Garvey Wilson, 2003; Kunar, 2008; Petrie, 2008; Roche, 2008; Veazie, 2000). Substance use impairs cognitive abilities and effective decision-making. The second explanation posits that substance use, such as drugs and prohibited drugs, promotes higher risk taking behaviours due to loss of self-control in the workplace: substance use leads to loss of self-control; loss of self-control leads to higher risk taking behaviour resulting in higher workplace injuries (Moyers, 1999; Plurad, 2011).

While the above-mentioned individual worker factors associated with workplace injuries and fatalities are credible and empirically validated in multivariate correlational studies, they situate causality of workplace injuries and fatalities, based upon essentialist assumptions and personal characters, on the workers alone without any consideration of the social and organizational influences of the workplace. In other words, such findings often situate the 'blame' on individual workers for workplace injuries and fatalities based upon their individual attitudes, beliefs and behaviours without any examination of the mitigating social and organizational contexts of the workplace. Individual workers do not 'perform their work' in a 'social vacuum' based entirely on their individual attributes. They perform their work in

'socially structured, situated and organized' work environments. As such, a consideration of the social and organization factors associated with workplace injuries is crucial in fully understanding the complexity of workplace injuries and fatalities.

## Social factors associated with workplace injuries

The lack of safety culture in the workplace is associated as a contributing social factor in workplace injuries and fatalities. Safety culture is a group phenomenon, a product of social learning and socialization about safety and the value of safety in work practices (Calmbacher, 1993; Dong, 2004; Faigenbaum, 2010; Fukuda, 1993). It is essentially the unconscious, invisible and tacit set of forces that determines both the individual and collective safety behaviour of a group of workers (Hooper, 2005). It consists of shared perceptions, thoughts, feelings and beliefs regarding safety and safe work practices. Safety culture refers to the way in which safety is managed in the workplace, and it often reflects the attitudes, beliefs, perceptions and values that employees and employers collectively share in relation to safety (Cox and Cox, 1991). How does the lack of safety culture in a workplace contribute to worker injuries and fatalities? Three sets of competing explanations are offered from current literature: 1) work environments are unsafe and remain unsafe without a safety culture (Johnson, 2002; Jones, 1981; Leiter, 2009), 2) workers are unaware and remain unaware of risks to themselves and fellow workers associated with their work practices without a safety culture (Calmbacher, 1993; Dong, 2004; Faigenbaum, 2010; Fukuda, 1993), and 3) workers are unaware and remain unaware of policies and procedures that require them to perform their jobs according to explicit statutory laws and regulations without a safety culture (Leiter, 2009; Monforton, 2010; Patterson, 2010). Without a collective safety culture, workers are unaware of risks associated with work environments and work practices. This exposes them and fellow workers to higher rates of workplace injuries and fatalities.

The lack of supervision and/or quality supervision in the workplace is associated as a contributing social factor in workplace injuries and fatalities. Benge (2007) maintains that supervisors have a critical role in workplace injury, fatalities prevention, and maintaining and promoting an active safe culture. How does lack of supervision and/or quality supervision in the workplace contribute towards worker injuries and fatalities? Delayed response by supervisors to workers reporting work-related injury significantly influences length of injury rehabilitation (Brogmus, 2007). Negative supervisor attitudes and practices

towards effectively maintaining an active safe work culture is associated with higher rates of workplace injuries (Runyan, 2007). Negative supervisor attitudes can also impede return to work and rehabilitation for injured workers (Rasmussen, 2011). The quality and time of supervisor response to reports of work-related injuries has significant effects on work injury and rehabilitation outcomes (Benge, 2007).

Excessive and unrealistic workloads in the workplace are associated as a contributing social factor in workplace injuries and fatalities. How does increasing workloads in the workplace contribute towards worker injuries and fatalities? Existing research literature suggests that increasing workloads result in higher incident reports of physical injuries, poor mental health and poor social well being for workers (Bohle, 2010; Bohle, 2004; Bohle, 2011; Costa, 2006; Donald, 1999; McNamara, 2011). Furthermore, excessive workloads result in poor work—life outcomes, more use of prescription medications, more stress, and more dissatisfaction with workers interpersonal relationships (Niedhammer, 2008; Pisarski, 2008; Yassi, 2005). Statistics indicate that high workload is a continuing problem in many Australian industries (Australian Workers Union, 2010). Importantly, an excessive workload culture does not necessarily lead to a more productive workforce. Excessive workloads can also increase the risk of other workplace problems, such as increased absences, higher employee turnover, discrimination, employee burnout and disillusionment. Pisarski, (2008, p. 69) asserts "any organization which allows (or even promotes) a culture of excessive workload may find that it comes at a high price, which is often indirect and hidden."

Working increasing work hours is associated as a contributing social factor in workplace injuries and fatalities. The Organization for Economic Co-Operation and Development (OECD) reported that Australian full-time workers had the highest average number of total hours worked per week of all OECD countries. Australian full-time workers worked an average of 43.4 hours, followed by employees in New Zealand (43.1 hours), the United Kingdom (42.2 hours), Poland (42.1 hours), and the United States (41.7 hours) (OECD, p. 127). How do increasing work hours contribute towards worker injuries and fatalities? Existing research literature suggests that increasing work hours results in worker fatigue (Bohle, 2010; Bohle, 2004; Bohle, 2011; Lilley, 2002; Lombardi, 2010; McNamara, 2011;

Nakata, 2011; Vegso, 2007). Worker fatigue is related to: 1) the workload imposed by a job, 2) the length of shift, 3) previous hours and days worked, 4) the time of day or night and 4) unrealistic deadlines and productivity targets.

Workplace and physical environment conditions are associated as a contributing social factor in workplace injuries and fatalities. The physical aspects of a workplace environment have a direct impact on the productivity, health and safety, comfort, concentration, job satisfaction and morale of the people within it fatalities (Awan, 2010; Bates, 1996; Bohle, 2010). Furthermore, factors in the work environment that are correlated to workplace injuries include: building design and age workplace layout, workstation set-up, furniture and equipment design and quality, space, temperature, ventilation, lighting, noise, vibration, radiation and air quality (Proto, 2010; Wei, 2010; Williams, 1994; Yassi, 2005). How do workplace physical environmental conditions contribute to injuries in the workplace? Inadequately designed and poorly maintained workplaces result in poor physical working conditions that contribute to higher rates of worker injuries and fatalities.

The lack of quality occupational health and safety training in the workplace is associated as a contributing social factor in workplace injuries and fatalities). Without quality occupational health and safety training, employers and workers may be unaware of the importance of and the need for safe work practices (Calmbacher, 1993; Dong, 2004). They may be unaware of daily unsafe work practices due to "habitual, ritualised and socialised ways of doing things" (Faigenbaum, 2010, p. 67). Also, they may lack knowledge and skills associated with identifying existing and/or potential work environmental hazards, assessing risks of injuries from these hazards, implementing appropriate control measures to prevent or minimise these risks, and checking that the control strategies are effectively controlling these risks in the workplace (Wilkinson, 2002; Zierold, 2006). Furthermore, they may be unaware of legislative responsibilities associated with employer and worker roles and actions in the workplace (Zierold, 2006).

In conclusion, the above-mentioned social and organizational workplace factors associated with workplace injuries and fatalities highlight the social, situational and environmental

influences on individual workers. They provide the situational background to where individual worker factors are lived and rendered operational on a daily basis. An emphasis on individual worker factors alone, based upon essentialist assumptions and personal characters, does not fully address the complexity of workplace injuries. As such, an effective and holistic understanding of workplace injury requires the crucial consideration of the social and organization factors if we are to fully understand the complexity of workplace injuries and fatalities. This understanding is crucial and urgently needed, especially if we are to make sense of why 636,000 Australians injured themselves in a work-related injury in the period 2009-2010 (Australian Bureau of Statistics, 2010).

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