



## Risk of work-related injury or illness

Factors associated with workplace injury have been identified in actual workers' compensation injury data and in the literature more generally. These factors can be grouped as including work organisational factors (such as workplace size and employment arrangements), social relations of work (including work intensification, workplace participation and management-employee relations) and demographic factors (whether certain social groups are at greater risk than others, i.e. young men, older workers, those from non-English speaking backgrounds). While actual OH&S injury data presents an indisputable outcome measure of workplace safety, what influences a worker's feeling of safety in the workplace has also been utilized as a measure of the real risk to which workers are exposed (Fleming et al 1998).<sup>1</sup> Therefore, in order to better understand factors influencing workplace safety cultures, workers in the *Australia at Work* study<sup>2</sup> were asked to respond via a five point agree-disagree scale to the following statement:

*'I am confident that I'm not going to get injured or sick as a result of my work'*

In 2007, while around three-quarters (73.7 per cent) of employees in the study do not feel at risk of experiencing a work-related injury or illness, around one-in-six (17.1 per cent) of employees felt at risk of injury or illness, Table 1.

**Table 1, Employee perceptions on workplace safety, 2007 to 2010, per cent**

Response: 'I am confident that I'm not going to get injured or sick as a result of my work'	Strongly agree/ Agree	Neutral	Strongly disagree/Disagree
2007 (n=6,462)	73.7	9.1	17.1
2008 (n=5,534)	73.9	9.1	16.9
2009 (n=5,132)	74.1	9.6	16.3
2010 (n=4,830)	74.0	9.4	16.6

Population: Employees each in wave (i.e. 2007, 2008, 2009 and 2010) Source: Australia at Work, Waves 1 to 4  
Weights: Baseweights, Weights08, Weights09, Weights10

<sup>1</sup> See for example, Fleming, Flin, Mearns and Gordon (1998), 'Risk perceptions of offshore workers in UK Oil and Gas Platforms', *Risk Analysis*, Vol. 18, No. 1, pp167-176

<sup>2</sup> The *Australia at Work* study is being conducted by the Workplace Research Centre at the University of Sydney. The project is funded by the Australian Research Council's Linkage Grant scheme and the industry partner is Unions NSW. Further financial support is provided by CFMEU Energy & Mining Division, CFMEU ACT Branch, NSW Nurses' Association, the Police Federation of Australia, the SDA, the CEPU, the QLD Nurses Federation and the Nurses Federation (Victorian Branch). *The study* is a five-year longitudinal telephone survey of people who were aged 16 to 58 years and in the Australian labour force in March 2006 (i.e. prior to the implementation of the *Work Choices* legislation on 27 March 2006). New entrants and re-entrants to the labour force after March 2006 were not 'in-scope' for the study.

Also from Table 1 we can see that the proportion of employees who feel at risk of workplace injury or illness has **remained stable** (between 16.3 and 17.1 per cent) across the four waves of the study.

### So what factors influence employee perceptions of workplace safety?

Modelling of the first wave of the data (2007) was undertaken to obtain a better understanding of the relative contribution of three key aspects to workers' perception of risk: **workplace characteristics, social relations of work and demographic factors**<sup>3</sup>.

**Workplace characteristics** explain approximately **10 per cent** of the variance in response to fear of workplace injury/illness (Appendix One, Table A.2). Where, specifically:

- Employees with occupations with higher injury rates also have higher perceptions of risk e.g. Technicians and Trade Workers, Community Workers, Machinery Operators and Labourers.
- Precarious or insecure employment is linked with fear of injury or illness. Casual employees
- Skill plays a protective role, where lower-skilled workers were more likely than higher-skilled workers to fear injury
- Hour of work - those working 50 hours or more
- Fixed term contracts
- Those in medium sized workplaces
- Those who work evening significant
- Surprisingly, not those working night shifts, irregular schedules, rotating shifts or on weekends.

**Social relations of work** explain the most variance of the three dimensions, explaining approximately **18 per cent** of the variance within the general labour market (Appendix One, Table A.3). Where, specifically:

- Employees in jobs characterised by low trust in management are almost twice as likely to fear work-related injury/illness.
- Employees in workplaces where there is lack of management consultation are twice as likely to fear injury/illness.
- Those who do not feel employees are treated fairly in their workplace are also 1.5 times more likely to fear injury/illness.
- Being a union member increases perception of risk - this suggests unions play an important role in providing avenues for members to raise workplace safety with management.
- Work intensification (1.3 times more likely) and control over working hours (1.69 times more likely) are also associated with fear of injury/illness.

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<sup>3</sup> Information in this factsheet is an extract from a paper by Fattore, Wright, Moensted & Scott-Ladd (forthcoming). The full paper is available from the authors upon request.

**Demographic characteristics** explain a smaller amount of the variance in risk perception compared to the job design and relational aspects of work, explaining on **7 per cent** of variance in risk of work-related injury/illness (Appendix One, Table A.4). Where, specifically:

- Similar to skill, education plays a protective role function. Degree-qualified employees are half as likely as employees with no post-school qualifications to fear injury/illness.
- Job tenure plays an important role, where those who are new to a job or have less than four years job tenure are less likely than the most experienced workers to fear injury/illness.
- Those experiencing income stress are almost three times as likely to fear injury/illness. This may reflect the increased exposure to risk of certain low-paying jobs.
- Workers from culturally or linguistically diverse backgrounds also have increased perception of risk.

**What do our findings suggest?**

We found that **perception of risk of workplace illness/injury is embedded in the structural and institutional qualities of work**. Occupation type, long work hours, precarious employment and shift structure - the material conditions of workplace relations - most fully explain the variation in perceived risk. Given the **correlation between perceived and actual risk of injury/illness**, we can tentatively surmise that these **structural and institutional qualities of work are also associated with actual risk on injury/illness**.

Much of the research around workplace safety focuses on the responsibilities of individuals close to the incident, rather than investigating the underlying factors contributing to the injury. This reinforces an **individualisation of responsibility for safety**. Our findings suggest that **management commitment and leadership more broadly** (thus including an important role for union leaders) are **key requirements for the improvement of workplace health and safety**. This includes not only technical aspects of work (such as implementing safety policies) but also **fostering trust and consultative relationships with staff**.

When we consider this within the framework of workplace safety interventions, the results suggest that **safe workplaces are those that effect primary or preventative strategies aimed at eliminating risk**. Further, safe workplaces are predicated on establishing **decent workplace conditions and developing workplace relations that support employees**.

**Low trust working environments** negatively affect employees feeling of safety and diminish the importance placed on safety by employees. Our findings indicate that safety initiatives are only likely to positively affect perceived safety if there is a basis of **trust and a perception of fairness in the workplace**. Therefore, **involving workers in safety discussions and procedures** is important to worker perceptions of - and actual - workplace safety.

## Appendix One Table A.1: Dependent variables in models

Variable name	Response categories (Reference category)
<b>1. Individual worker characteristics</b>	
Age (years)	16 to 24 years (Ref), 25 to 44 yrs, 45 to 54 yrs, 55 yrs +
Gender	Male (Ref), Female
Children under 16 yrs in household	Yes, No (Ref)
Highest education qualification	Less than Year 12 (Ref), Year 12, Graduate diploma or trade qualification, Degree or above
Geographic location	Metropolitan, Regional (Ref)
Cultural Background	English spoken at home (Ref), Language other than English spoken at home
Job tenure	One year or less, Two to four years, Five to ten years, 10 years or more (Ref)
Living Standards	Difficulty coping, Coping, Living comfortably (Ref)
<b>2. Job design</b>	
Occupation Type	Manager (Ref), Professional, Technical/trade workers, Community & Personal Service workers, Clerical & Administrative workers, Sales workers, Machinery Operators & Drivers and Labourers
Skill level	Low skill (ANZSCO skill levels 4 & 5), high skill (Ref) (ANZSCO Skill levels 1, 2 & 3)
Usual weekly hours of work in main job	1 to 15hrs (Ref), 16 to 34 hrs, 35 to 40 hrs, 41 to 49 hrs, 50 or more hrs
Form of employment	Permanent (Ref), fixed term contract, casual; self-employed
Sector	Private, Public; Not for Profit (Ref)
Workplace size	Less than 20 employees (Ref), 20 to 100 employees, More than 100 employees
Evening work	Yes, No (Ref)
Extra Hours	Yes, No (Ref)
Night shift	Yes, No (Ref)
Weekend work	Yes, No (Ref)
Rotating shift	Yes, No (Ref)
Irregular schedule	Yes, No (Ref)
<b>3. Social relations at work</b>	
Hours preferences	Like to work fewer hours, happy with hours (Ref), like to work more hours
Work intensification (EP)	Agree 'More and more is expected of me for the same amount of pay', All other responses (Ref)
Employee fairness (EP)	Disagree 'Employees are treated fairly in my workplace', all other responses (Ref)
Management consultation (EP)	Disagree 'Management at my workplace consult staff about issues affecting staff', all other responses (Ref)
Trust in managers (EP)	Disagree 'Managers at my workplace can be trusted to tell things they way they are', all other responses (Ref)
Control over working hours (EP)	Disagree 'I have control over my working hours', all other responses (Ref)
Job security (EP)	Agreement 'There's a good chance I will lose my job or be retrenched within the next 12 months', all other responses (Ref)
Union membership	Union member, not a union member (Ref)

Ref = reference category

EP = employee perception

Source: Australia at Work, Wave 1, 2007 data

Population: Employed persons only (n=7,805 includes employees and self-employed)

**Appendix One Table A.2: Workplace Characteristics – Odds-Ratios by General Workforce, 2007**

	Workforce Total	
<i>Occupation Type</i>	Professionals	1.459(0.004)***
	Technicians and Trade Workers	1.623(0.006)***
	Community and Personal Workers	1.959(0.006)***
	Clerical and Admin Workers	0.746(0.006)***
	Sales Workers	0.936(0.007)***
	Machinery Operators and Drivers	2.762(0.007)***
	Labourers	2.338(0.006)***
	Managers (ref)	
<i>ANZSCO Skill</i>	Low Skill	2.146 (0.004)***
	High Skill (ref)	
<i>Hours – Main Job</i>	16 to 34 hours	1.343(0.004)***
	35 to 40 hours	1.172(0.004)***
	41 to 49 hours	1.313(0.005)***
	50 hours or more	1.556(0.005)***
	1 to 15 hours (ref)	
<i>Form of Employment</i>	Fixed term	0.623(0.005)***
	Casual	1.127(0.003)***
	Self-employed	0.639(0.014)***
	Permanent (ref)	
<i>Sector</i>	Private Sector	0.711(0.004)***
	Public Sector	1.256(0.004)***
	Not-for-profit (ref)	
<i>Workplace Size</i>	20 to 100 staff	1.055(0.003)***
	More than 100 staff	1.105(0.003)***
	Less than 20 staff (ref)	
<i>Evening Work</i>	Works Evenings	1.159(0.002)***
	Doesn't work evenings (ref)	
<i>Extra Hrs/Overtime</i>	Works extra hours	1.105(0.003)***
	Doesn't work extra hours (ref)	
<i>Night Shift</i>	Working night shift	0.821(0.002)***
	Not working night shift (ref)	
<i>Irregular schedule</i>	Working irregular schedule	0.808(0.005)***
	Not working irregular schedule (ref)	
<i>Rotating Shift</i>	Working rotating shift	0.605(0.004)***
	Not working rotating shift (ref)	
<i>Work weekends</i>	Work weekends	1.083(0.003)***
	Not working weekends (ref)	

Reference category is **I am Confident I am not going to get injured at work**

Figure in brackets is standard error for parameter estimate. \*Sig. at 0.05 \*\*Sig at 0.005 \*\*\*Sig. at 0.000  
Nagelkerke R2: Model = 0.000

**Appendix One Table A.3: Social Relations of Work - Odds-Ratios by General Workforce, 2007**

		Workforce Total
Hour Preferences	Like to work fewer hours	1.052(0.003)***
	Like to work more hours	1.338 (0.004)***
	Happy with hours (ref)	
Work intensification	More expected for same pay	1.337 (0.003)***
	No (ref)	
Employer fairness	Employees not treated fairly	1.828 (0.004)***
	Employees treated fairly (ref)	
Workplace Consultation	Managers don't consult	1.998(0.003)***
	Managers consult (ref)	
Trust	Managers at my workplace can't be trusted	1.789(0.004)***
	Managers can be trusted (ref)	
Work hours control	No control over working hours	1.591 (0.003)***
	Control over working hours (ref)	
Job Security	Insecure in job	1.344(0.004)***
	Feel secure in job (ref)	
Union Membership	Union Member	0.620(0.003)***
	Not Union Member (ref)	

Reference category is **I am Confident I am not going to get injured at work**

Figure in brackets is standard error for parameter estimate. \*Sig. at 0.05 \*\*Sig at 0.005 \*\*\*Sig. at 0.000, Nagelkerke R2: Model = 0.000

**Appendix Table A.4: Demographic Characteristics of Workers - Odds-Ratios by General Workforce, 2007**

		Workforce Total
Education Level	Year 12	0.608(0.004)***
	Trade qual./Diploma	0.913(0.003)***
	Bachelor Degree or above	0.586(0.003)***
	Less than Year 12 (ref)	
Age (years)	25 to 44	0.866(0.004)***
	45 to 54	1.126(0.004)***
	55 or above	1.009(0.005)
	16 to 24 (ref)	
Job Tenure	One year or less	0.657(0.004)***
	Two to four years	0.746(0.003)***
	Five to ten years	0.852(0.003)***
	More than ten years (ref)	
Living Standards	Difficulty in living standards	2.802(0.003)***
	Coping	1.370(0.003)***
	Living comfortably (ref)	
Children under 16	Yes	0.916(0.003)***
	No (ref)	
Geographic location	Metropolitan	0.890(0.002)***
	Regional (ref)	***
Sex	Female	1.063(0.002)***
	Male (ref)	
CALD	Language other than English at home	1.652(0.004)***
	English at home (ref)	

Reference category is **I am Confident I am not going to get injured at work**

Figure in brackets is standard error for parameter estimate.

\*Sig. at 0.05 \*\*Sig at 0.005 \*\*\*Sig. at 0.000, Nagelkerke R2: Model = 0.000