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To: Committee, EEWorkplaceBullying (REPS)
Subject: Safe Work Australia Supplementary Submission

To the Committee Secretary

Please find attached the Safe Work Australia supplementary submission to the inquiry on workplace bullying which includes information requested by the Committee. It has been cleared by our Chief Executive Officer.

Also attached are the following two documents that were considered by Safe Work Australia Members at the end of July:

- a copy of the draft *Code of Practice: Managing the Risk of Workplace Bullying*, and
- a copy of the draft report outlining the Australian Workplace Barometer (AWB) results.

Our initial submission included an earlier version of the draft Code of Practice and a summary of the draft report on the AWB results. Our Members decided to delay finalisation of the Code until after the Committee has reported. Consequently the attached version is still a draft. The AWB report is also yet to be published.

Safe Work Australia

**Supplementary submission to the House Standing Committee on Education
and Employment**

Inquiry into Workplace Bullying

16 August 2012

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Executive summary

1. Safe Work Australia provided a submission to the House Standing Committee on Education and Employment's inquiry into workplace bullying on 29 June 2012.
2. At the request of the Committee a supplementary submission is provided that contains information on:
 - a. international research on the prevalence on workplace bullying
 - b. international approaches to regulating workplace bullying, and
 - c. death entitlements in workers' compensation laws across Australia.

Section 1 - International estimates of the prevalence of workplace bullying

4. There is wide variation in the estimates of the prevalence of workplace bullying both within and between countries worldwide. This variation is likely to be caused by both societal differences between countries and by differences in the methodology¹ used. As there is greater awareness of bullying today as opposed to 20 years ago it is difficult to compare previous studies with more recent studies.
5. To make a fair comparison of the estimated prevalence of bullying in Australian workplaces to those of other countries, studies have been compared where the data has been collected in a similar way to the Australian Workplace Barometer (AWB) Study. These studies include the below attributes. The estimates are presented in Table 1.
 - Data was collected from a cross-sectional, representative, random sample of workers.
 - Bullying was defined to participants in a similar manner and with a relatively narrow definition of workplace bullying.
 - Research was undertaken no earlier than 2000.
6. The prevalence estimates of workplace bullying based on self-labelling/perceived victimisation of bullying are the easiest to compare between studies. Between four and 11 percent of participants in the comparable recent population-based studies have self-labelled themselves as victims of workplace bullying. Based on this it seems likely that Australia has a similar rate of workplace bullying to countries like Norway, Denmark, Ireland and Great Britain. Only the Norwegian study used the same definition of workplace bullying as the AWB study and this definition was the narrowest of all the comparable studies. Australian and Norwegian prevalence estimates are the most conservative and potentially underestimate the prevalence of workplace bullying if bullying by opponents of equal 'strength' is included.
7. It is not currently possible to compare Australian prevalence estimates based on workers' experience of bullying behaviours with other international studies. However bullying behaviour data has been collected in the Personality and Total Health [PATH] Through Life study using the methodology of Quine (1999) and is being analysed. The findings may show similar results to the estimates outlined in Table 1. The prevalence of 'severe' bullying based on studies that have used the Negative Acts Questionnaire (NAQ) seems to be between three and six percent although calculation methods vary between studies.

¹ It is extremely important to consider the methodology used to estimate the prevalence of workplace bullying. The following factors should be considered because they will affect the estimate generated by the research:

1. **Definition of bullying used:** variation in the definition of workplace bullying used will lead to studies measuring different aspects of workplace bullying, with some studies having a broader or narrower focus. A broad definition of bullying will increase the prevalence estimate while a narrow definition of workplace bullying will likely result in lower estimates of the prevalence of workplace bullying. In addition some studies define bullying while others do not. Studies that do not define bullying usually result in higher estimates of the prevalence of bullying.
2. **Measurement methods:** Studies usually survey exposure to workplace bullying by one of two methods: either by assessing perceived victimisation / self labelling of bullying or by assessing perceived exposure to specific bullying behaviours. It has been noted that these methodologies generate different estimates of bullying, with some groups of workers being less likely to self-identify as having been bullied despite reporting exposure to specific bullying behaviours. The reverse is also true, where some groups self-label / identify as being bullied but do not report exposure to bullying behaviours. Ideally, studies would use both measurement approaches.
3. **Perspective on bullying:** Prevalence of workplace bullying estimates is usually based on reports by bullying victims. Very little is known about the prevalence of bullying seen from the perspective of observers or perpetrators.
4. **Reporting periods:** studies vary in the period of time considered for determining exposure to bullying. Most studies choose either six or twelve months. Longer reporting periods will probably generate higher prevalence rates than an equivalent study using a shorter reporting period.
5. **Representative samples:** few studies are based on nationally representative samples. The prevalence estimates yielded by studies based on non-representative samples may have limited relevance to the prevalence of workplace bullying at a national level. Indeed some studies are biased towards high risk industries which will result in higher estimates for bullying exposure than overall rates for a country.

Table 1. Comparable estimates of the prevalence of workplace bullying

Country	Prevalence estimate by methodology			Period	Year	Source
	Self-labelling	Bullying behaviours	Overall			
Australia	6.8%	Some data collected on harassment behaviours	-	6 months	2009-11	Australian Workplace Barometer (AWB) study
	6.8%	data collected	Research ongoing	6 months	2011	PATH through life study
Belgium	-	NAQ severe bullying: 3.6%	-	Probably 6 months	Not reported	Notelaers et al. (2011)
Denmark	8.3%	-	-	12 months	2004/05	Ortega et al. (2009)
France	M: 22% F: 27%	LIPT M: 11% F: 13%	M: 9% F: 11% Overall: 10%	12 months	2004	Niedhammer et al. (2007)
Great Britain	10.6%	NAQ severe bullying: 5%	-	6 months	Not reported	Hoel et al. (2001) Einarsen et al. (2009)
Ireland	7%	-	-	6 months	2000/01	O'Connell and Williams (2002)
	7.9%	-	-	6 months	2006/07	O'Connell et al. (2007)
Norway	4.6%	NAQ 6.2%-14.3%	6.8%	6 months	2005	Nielsen et al. (2009)
Spain	unclear	NAQ severe bullying: 5.8%	-	6 months	2006/07	González Trijueque and Graña Gómez (2010)
USA ¹	9.4%	NAQ 28%	-	6 months	Not reported	Lutgen-Sandvik et al. (2007)

1. The USA sample is unlikely to be representative owing to small sample size and the sampling methodology used

Bullying definitions: the Australian AWB study and the Norwegian study used the same definition of bullying. This was the most narrow definition of bullying, explicitly excluding bullying that may occur between opponents of equal 'strength'. The remaining studies (except PATH) defined bullying in a similar way to the AWB and Norwegian study, with the exception that they did not exclude bullying that may occur between opponents of equal 'strength'. If the remaining studies had used the same definition as the AWB, this may have resulted in lower prevalence estimates for workplace bullying in these studies. The PATH through life study had the broadest definition of workplace bullying, with no mention of repetitive behaviours. Therefore, the self-labelling prevalence estimate for workplace bullying is not strictly comparable with the other studies presented in this table.

Bullying behaviour questionnaire used and calculation of prevalence estimates:

NAQ: Negative Acts Questionnaire

LIPT: Leymann Inventory of Psychological Terror

Bullying behaviour prevalence estimates are usually calculated based on people reporting they were subjected to at least one (or sometimes two) bullying behaviours weekly for at least six months

8. A recent meta-analysis of 86 independent studies involving over 130 000 individuals from all over the world provided an estimate that 14.6 percent of workers have been bullied in the workplace (over a 6-12 month study reporting period) (Nielsen et al. 2010). However this meta-analysis included many studies that were focused on the occupations often associated with high prevalence of bullying including the health or education sectors. The prevalence estimate generated in this study may overstate occurrences of workplace

bullying worldwide because it is biased by studies that are non-representative of workforces as a whole. The study authors note that there is a bias in the meta-analysis towards Scandinavian research where the majority of bullying research has been undertaken. The research usually finds lower prevalence of workplace bullying than other countries. This may serve to cause an underestimate in the overall estimate of the prevalence of workplace bullying.

9. The meta analysis study (Nielsen et al. 2010) clearly showed that estimates of the prevalence of workplace bullying are affected by measurement method. 11.3 percent was found for studies that measured self-labelling of bullying and which provided a definition of bullying while 14.8 percent was found for behavioural exposure measures and 18.1 percent for self-labelling studies where a definition of workplace bullying was not provided (Nielsen et al. 2010). A difference of 8.7 percentage points was found between randomly sampled and non-randomly sampled studies, with randomly sampled studies having lower prevalence estimates (Nielsen et al. 2010). Geographical area as defined by Scandinavia, Europe and Non-Europe also showed differences in the prevalence of workplace bullying with lower prevalence in Scandinavian countries compared to other European and non-European countries. It should be noted that only two Australian studies were included in this meta-analysis neither of which included a representative sample of Australian workers.

Section 2 - International approaches to regulating workplace bullying

10. Safe Work Australia has examined international research over the last ten years. The most recent published research is from 2010 with no robust studies being published since this time.
11. Hoel and Einarsen (2010) and Lippel (2010) report that the countries or states where specific legislation relating to workplace bullying exists include:
 - a. France
 - b. Belgium (moral harassment 2002)
 - c. the Netherlands
 - d. Québec (psychological harassment) and some other Canadian provinces
 - e. Sweden
 - f. Finland
 - g. Denmark, and
 - h. specific states in Brazil.
12. Countries that have more general legal frameworks that workers subjected to bullying that rely on include Spain (Code of Practice), Germany, Chile and the United States of America (USA). Some countries including France and Spain have criminal or penal recourses that explicitly target bullying by employers.
13. Links to the work health and safety organisation information on workplace bullying is at [Attachment A](#).

Europe

14. There is no specific European Union legal framework that deals with workplace bullying but there are directives relating to racial and sexual harassment and on some forms of discrimination.

Great Britain

15. The British Government believes the current legal remedies are adequate and has resisted the introduction of specific regulations relating to workplace bullying. For example, A Dignity at Work Bill was put before Parliament in both 1996 and 2001 but was unsuccessful both times.
16. "Legal action by bullying victims involves more general legal provisions, the imaginative use of the vicarious liability principle, health and safety legislation or even public order or stalking laws... A key characteristic of workplace bullying in Britain is that the legal framework is weak and unclear. Hence the focus is very much on case law, which depends on the interpretation of the courts" (Beale and Hoel 2010).
17. As the Dignity at Work Bill was not passed, the Department of Business, Innovation and Skills led a £1 million government-funded Dignity at Work Partnership project in conjunction with unions and major employers. Further information on the Dignity at Work Partnership project can be found at <http://www.dignityatwork.org/default.htm>.
18. The HSE has published Management Standards for work-related stress <http://www.hse.gov.uk/stress/standards/index.htm>, which includes information on how to manage bullying.
19. The Health and Safety Laboratory has published a comprehensive review on workplace bullying: Beswick et al. (2006) Bullying at work: a review of the literature http://www.hse.gov.uk/research/hsl_pdf/2006/hsl0630.pdf.

Ireland

20. Ireland's Safety, Health and Welfare Act was enacted in 1989 and updated in 2005. It stipulates that employers have a duty of care for their workers' psychological, as well as physical, wellbeing. In addition, Ireland has introduced non-legislative Codes of Practice, under various Acts. These include the Prevention of Workplace Bullying (2007), Procedures for Addressing Bullying in the Workplace (2002) and Sexual Harassment and Harassment at Work (2002) Codes of Practice (O'Connell et al. 2007).
21. According to O'Connell et al. (2007), the 2005 report of the Expert Advisory Group on Workplace Bullying highlighted the inadequacies of the Irish legal framework and recommended that greater legislative and enforcing powers be awarded to the main bodies responsible for dealing with bullying in the workplace.
22. More information on workplace bullying in Ireland, including Irish policy on this issue can be found at <http://www.eurofound.europa.eu/ewco/2007/04/IE07040291.htm>

Sweden

23. Despite being at the forefront of workplace bullying research no suitable recent studies of the prevalence of workplace bullying were found to compare to the Australian data. The Swedish Work Environment Authority estimated that in 2005 about 9% of workers were harassed through 'mean words or actions' (Arbetsmiljöverket [Swedish Work Environment Authority] 2006). In contrast a landmark nationally representative Swedish study in 1991 found 3.5 percent of workers were bullied, based on strict levels of experiencing bullying behaviours (bullying must have occurred at least weekly over a six month period) (Leymann 1992; 1996).
24. Sweden was the first country to enact a legal regulation targeting workplace bullying. The specific legal framework for dealing with workplace bullying is Ordinance AFS 1993: 17 Victimization at work which is underpinned by the 1977 *Arbetsmiljölagen* (Work Environment Act). The 1993 Ordinance has a narrow scope and includes only actions directed at individual employees who are treated differently from others. A copy of the Ordinance can be accessed via <http://www.av.se/dokument/inenglish/legislations/eng9317.pdf>.
25. The only evaluation of the effectiveness of the Swedish regulatory framework and bullying regulation in general was conducted by Hoel and Einarsen (2010). It was concluded that the Swedish Ordinance had not been as effective and successful as hoped despite many other positive commendations of this regulation. Four general shortcomings were identified: the ordinance itself; the problems bullying victims faced when seeking redress; the responses of employers, trade unions and the Labour Inspectorate; and cultural and socio-economic factors. The main criticism was "...the Labour Inspectorate was insufficiently prepared at the time the regulation was introduced, both in terms of its inspectors' level of knowledge and with respect to specific workplace enforcement strategies and methods".
26. Beale and Hoel (2010) stated "The Labour Inspectorate has been criticised for individualising the problem (not placing enough emphasis on organisational shortcomings), while employers have highlighted the complexity of the problem and the shortcomings of the Ordinance. A further difficulty is the lack of sanctions available to inspectors when the regulation is breached. Bullying victims have encountered difficulties in receiving redress by having their case heard by their employer or the courts. Only a very small number of victims have succeeded in having their experience of bullying judged as a work-related injury and consequently received compensation..."
27. It was also found:
 - a. bullying between colleagues is more common in Sweden than bullying of subordinates. Mobbing – with a group of workers as the perpetrators targeting a vulnerable worker – has also been the focus of the Swedish debate on this issue

- b. there appears to be less interest in workplace bullying in Sweden compared to Britain, possibly due to the fact that the Swedish state bears most of the costs arising from absenteeism, rehabilitation and early retirement, and
- c. ignorance about regulations (among management in particular) needs to be targeted and employers and employees need to take more preventative measures with respect to workplace bullying.

USA

- 28. There are no specific standards for 'workplace violence', which covers bullying in the USA. However employers are required to provide their employees with a place of employment that is free from recognisable hazards that are causing or likely to cause death or serious harm to employees (General Duty Clause, Section 5(a)(1) of the *Occupational Safety and Health Act 1970*). Refer to <http://www.osha.gov/SLTC/workplaceviolence/standards.html>
- 29. Bullying has received less attention in the USA than Europe and Australia owing to a focus on workplace homicides and shootings. Homicide is a leading cause of death while at work in the USA. In 2009-10 it was ranked second behind vehicle collisions as the leading cause of fatal occupational injuries.

New Zealand

- 30. A bullied worker may have legal claims against their employer under both legislation and the common law. They may have a personal grievance claim against the employer under the *Employment Relations Act 2000*. Employers have a duty to provide a safe and secure workplace and the employer must take reasonable steps to protect employees from harm.
- 31. Only one recent New Zealand study on the prevalence of workplace bullying was found (O'Driscoll et al. 2011) but it was focussed on four high risk occupations and therefore not comparable to the Australian data.

Section 3 - Death entitlements in workers' compensation

32. Each Australian jurisdiction has a death entitlement structure in place that provides for lump sum payments, funeral costs and weekly payments for dependants. Some jurisdictions provide payments for spouses and counselling.
33. For a worker's family to receive a death entitlement for the suicide of a family member, including a suicide as the result of workplace bullying, there may be three key requirements to satisfy – depending on the jurisdiction in which the suicide occurred:
 - the injury/death arose out of or in the course of employment and/or that work was a substantial or significant contributing factor to the death and not just a contributing factor²
 - that compensation for the injury is not excluded because it was intentionally self-inflicted^{3 4}, and
 - a level of dependency should exist between the deceased and worker's family.
34. Attachment B outlines the definition of 'dependant/s' used by jurisdictions and information on death entitlements paid by jurisdictions.
35. Dependency based on the 'earnings' of the deceased worker is a key threshold requirement in all jurisdictions. New South Wales is the only jurisdiction that also allows for dependency claims on the basis that the person has a 'reasonable expectation of support' (non-financial support). This encompasses services formerly rendered by the deceased worker which are capable of quantification in monetary terms (like maintenance around the home). New South Wales is also the only jurisdiction that makes lump sum entitlement payable to the estate of the deceased where there are no dependants⁵.
36. As part of the National Workers' Compensation Action Plan 2010–2013, Safe Work Australia is currently developing a discussion paper on model arrangements for death entitlements.

² For more information on the Definition of Injury and the relationship to employment see the *Comparison of Workers' Compensation Arrangements in Australia and New Zealand* (April 2012) p 54.

³ Depending on the test used by each jurisdiction, suicide may not be excluded for compensation if the worker was suffering from a work related psychological injury (i.e. the worker was not in their right mind)

⁴ For a jurisdictional breakdown of exclusionary provisions please see the *Comparison of Workers' Compensation Arrangements in Australia and New Zealand* (April 2012) pp. 65-66.

⁵ *Workers' Compensation Act 1987* No 70, Part 3, Div 1, Sect 32.

Examples of international work health and safety organisations' information

Canadian Centre for Occupational Health and Safety

<http://www.ccohs.ca/oshanswers/psychosocial/bullying.html>

Guidance: <http://www.ccohs.ca/products/publications/violence.html>

European Agency for Safety and Health at Work (EU-OSHA)

<http://osha.europa.eu/en/publications/factsheets/23/>

<http://osha.europa.eu/en/topics/stress/bullying.stm>

Health and Safety Executive - HSE (UK):

<http://www.hse.gov.uk/stress/furtheradvice/bullyingharassment.htm>

<http://www.hse.gov.uk/pubns/indg430.pdf>

Management standard <http://www.hse.gov.uk/stress/standards/index.htm>

Ireland – Health and Safety Authority

http://www.hsa.ie/eng/Topics/Bullying_at_Work/

Code of Practice -

http://www.hsa.ie/eng/Publications_and_Forms/Publications/Occupational_Health/Code_of_Practice_for_Employers_and_Employees_on_the_Prevention_and_Resolution_of_Bullying_at_Work.html

New Zealand – Ministry of Business, Innovation and Employment

<http://www.dol.govt.nz/infozone/myfirstjob/employees/during/safety/bullying.asp>

<http://www.osh.govt.nz/publications/factsheets/bullying.html>

<http://www.dol.govt.nz/er/services/law/case/themes/2009-08-workplace-bullying.asp>

Swedish Work Environment Authority [Arbetsmiljöverket]

Ordinance AFS 1993:17 Victimization at Work

<http://www.av.se/dokument/inenglish/legislations/eng9317.pdf>

USA – OSH

<http://www.osha.gov/SLTC/workplaceviolence/index.html>

Enforcement information: <http://www.osha.gov/SLTC/workplaceviolence/standards.html>

Definition of dependant/s and death entitlements in Australian jurisdictions

	Definitions	Death entitlements⁶
New South Wales	“dependants” of a worker: means members of the worker’s family as were wholly or in part dependent for support on the worker at the time of the worker’s death, or would but for the incapacity due to the injury have been so dependent (<i>Workers Compensation Act 1998</i> , NSW, s4)	\$481 950 Lump sum, weekly payments, and funeral expenses.
South Australia	Dependant, in relation to a deceased worker, means a relative of the worker who, at the time of the worker’s death: was wholly or partially dependent for the ordinary necessities of life on earnings of the worker, or would, but for the worker’s disability, have been so dependent, and includes a posthumous child of the worker, and dependent has a corresponding meaning (<i>Workers Rehabilitation and Compensation Act 1986</i> , SA, s3)	\$454 739 Lump sum, weekly payments, and funeral expenses.
Queensland	A dependant, of a deceased worker, is a member of the deceased worker’s family who was completely or partly dependent on the worker’s earnings at the time of the worker’s death or, but for the worker’s death, would have been so dependent (<i>Workers’ Compensation and Rehabilitation Act 2003</i> , QLD, s27-29).	\$511 460 Lump sum, weekly payments, and funeral expenses.
Victoria	“dependant” means a person who: at the time of the death of a worker was wholly, mainly or partly dependent on the earnings of the worker, or would but for the incapacity of a worker due to the injury have been wholly, mainly or partly dependent on the earnings of the worker. (<i>Accident Compensation Act 1985</i> , VIC, s5)	\$527 610 Lump sum, weekly payments, funeral expenses, and counselling expenses.
Western Australia	“dependants” means such members of the worker’s family as were wholly or in part dependent upon the earnings of the worker at the time of his death, or would, but for the injury, have been so dependent (<i>Workers’ Compensation and Injury Management Act 1981</i> , WA, s5)	\$261 429 Lump sum, weekly payments, and funeral expenses.
ACT (private)	dependant, of a dead worker, means an individual: who was totally or partly dependent on the worker’s earnings on the day of the worker’s death or who would, apart from the worker’s incapacity because of the injury, have been so dependent, and who was: (i) a member of the worker’s family, or (ii) a person to whom the worker acted in place of a parent or who acted in place of a parent for the worker (<i>Workers Compensation Act 1951</i> , ACT, Dictionary).	\$197 677 Lump sum, weekly payments, and funeral expenses.
Tasmania	“dependants” means such members of the family of the worker in relation to whom the term is used as: were dependent, wholly or in part, upon the earnings of that worker at the time of his death, or would have been so dependent but for the incapacity due to the injury (<i>Workers Rehabilitation and Compensation Act 1988</i> , TAS, s3).	\$289 192 Lump sum, and weekly payments.
Northern Territory	Dependent, in relation to a worker, means: a spouse or other member of the worker’s family; a person to whom the worker stood in loco parentis or who stood in loco parentis to the worker; a grandchild of the worker, who was wholly or in part dependent on his or her earnings at the date of his or her death or who would but for the worker’s incapacity due to the injury resulting in his or her death, have been so dependent (<i>Workers Rehabilitation and Compensation Act</i> , NT, s49).	\$348 712 Lump sum, weekly payments, and funeral expenses.
Comcare	Dependant, in relation to a deceased employee, means: the spouse, parent, step parent, father in law, mother in law, grandparent, child, stepchild, grandchild, sibling or half sibling of the employee, or a person in relation to whom the employee stood in the position of a parent or who stood in the position of a parent to the employee, being a person who was wholly or partly dependent on the employee at the date of the employee’s death (<i>Safety, Rehabilitation and Compensation Act 1988</i> , CTH, s4).	\$458 980 Lump sum, weekly payments, and funeral expenses

⁶ Jurisdictions have varying death entitlement arrangements, for more information on these arrangements refer to Safe Work Australia’s *Comparison of Workers’ Compensation Arrangements in Australia and New Zealand* (April 2012), pp 90-91.

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MANAGING THE RISK OF WORKPLACE BULLYING

Draft Code of Practice

July 2012

- This revised Code of Practice was considered by Safe Work Australia Members at the end of July.
- Safe Work Australia Members agreed in July to delay the finalisation of the Code until after the Committee has reported.

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FOREWORD

This Code of Practice for managing the risk of workplace bullying is an approved code of practice under section 274 of the *Work Health and Safety Act* (the WHS Act).

An approved code of practice is a practical guide to achieving the standards of health, safety and welfare required under the WHS Act and the Work Health and Safety Regulations (the WHS Regulations).

A code of practice applies to anyone who has a duty of care in the circumstances described in the code. In most cases, following an approved code of practice would achieve compliance with the health and safety duties in the WHS Act, in relation to the subject matter of the code. Like regulations, codes of practice deal with particular issues and do not cover all hazards or risks which may arise. The health and safety duties require duty holders to consider all risks associated with work, not only those for which regulations and codes of practice exist.

Codes of practice are admissible in court proceedings under the WHS Act and Regulations. Courts may regard a code of practice as evidence of what is known about a hazard, risk or control and may rely on the code in determining what is reasonably practicable in the circumstances to which the code relates.

Compliance with the WHS Act and Regulations may be achieved by following another method, such as a technical or an industry standard, if it provides an equivalent or higher standard of work health and safety than the code.

An inspector may refer to an approved code of practice when issuing an improvement or prohibition notice.

This Code of Practice has been developed by Safe Work Australia as a model code of practice under the Council of Australian Governments' *Inter-Governmental Agreement for Regulatory and Operational Reform in Occupational Health and Safety* for adoption by the Commonwealth, state and territory governments.

A draft of this Code of Practice was released for public consultation on 26 September 2011 and was endorsed by the Workplace Relations Ministers Council on *[to be completed]*.

SCOPE AND APPLICATION

Workplace bullying is a psychological hazard, the risks of which need to be managed like any other physical hazard at the workplace. All businesses, regardless of size, have a duty to provide a safe and healthy workplace. To meet this duty, it is necessary to have systems to manage the risk of workplace bullying and ensure reports are responded to in an appropriate and timely manner.

This Code provides guidance for a person conducting a business or undertaking on how to prevent workplace bullying by using a risk management process. It includes information on what workplace bullying is, how to identify the risks that give rise to it, and how those risks can be eliminated or minimised.

The control measures and strategies outlined in this Code can be tailored to fit the size and structure of a business. Some strategies and control measures will have a direct effect on a particular situation, however, the range of strategies used should be aimed at finding ways to create long-term change in the workplace. Workplace bullying is best dealt with by taking steps to prevent it becoming a risk to worker health and safety.

How to use this code of practice

In providing guidance, the word 'should' is used in this Code to indicate a recommended course of action, while 'may' is used to indicate an optional course of action.

This Code also includes various references to provisions of the WHS Act and Regulations which set out the legal requirements. These references are not exhaustive. The words 'must', 'requires' or 'mandatory' indicate that a legal requirement exists and must be complied with.

1 INTRODUCTION

1.1 What is workplace bullying?

Workplace bullying is defined as repeated, unreasonable behaviour directed towards a worker or a group of workers, that creates a risk to health and safety.

Repeated behaviour refers to the persistent nature of the behaviour and can refer to a range of behaviours over time.

Unreasonable behaviour means behaviour that a reasonable person, having regard for the circumstances, would see as victimising, humiliating, undermining or distressing.

Types of unreasonable behaviour that may be considered as workplace bullying, when part of a repeated pattern of events, can include:

- abusive, insulting or offensive language or comments
- undue criticism
- excluding, isolating or marginalising a person from normal work activities
- withholding information that is vital for effective work performance
- unreasonably overloading a person with work or not providing enough work
- setting unreasonable timelines or constantly changing deadlines
- setting tasks that are unreasonably below or beyond a person's skill level
- denying access to information, supervision, consultation or resources such that it has a detriment to the worker
- spreading misinformation or malicious rumours
- changing work arrangements, such as rosters and leave, to the detriment of a particular worker or workers
- unreasonable treatment in relation to accessing workplace entitlements such as leave or training.

A single incident of unreasonable behaviour is not considered to be workplace bullying however it may have the potential to escalate and should not be ignored.

How does workplace bullying occur?

Workplace bullying can occur wherever people work together in all types of workplaces. Bullying can be carried out verbally, physically or in writing. With the introduction of new technologies, it can occur through email or text messaging, internet chat rooms, instant messaging or other social media channels.

Workplace bullying can be directed at a single worker or group of workers and be carried out by one or more workers and can occur:

- **downwards** from managers to workers
- **sideways** between workers
- **upwards** from workers to supervisors or managers.

Impact of workplace bullying

Workplace bullying can be extremely harmful not only to the person experiencing it but also those who witness it. Reactions to it will vary depending on individual characteristics as well as the specific situation, for example, the effects may include one or more of the following:

- distress, anxiety, panic attacks or sleep disturbance
- physical illness, such as muscular tension, headaches and digestive problems
- reduced work performance
- loss of self-esteem and feelings of isolation
- deteriorating relationships with colleagues, family and friends
- depression and even thoughts of suicide.

Those who witness bullying may experience guilt because they feel helpless in not knowing how to respond appropriately and fear that they may expose themselves to bullying behaviour if they intervene. They may also feel angry, unhappy or stressed and may become unmotivated to work.

Workplace bullying can damage the reputation of a business and can lead to:

- high staff turnover and associated recruitment and training costs
- low morale and motivation
- increased absenteeism
- lost productivity
- disruption to work when complex complaints are being investigated
- costly workers' compensation claims or legal action.

1.2 What is not considered to be workplace bullying?

Reasonable management action

There are times where persons conducting a business or undertaking may take reasonable management action to effectively manage the operation of their business. These actions are usually not considered to be bullying if they are reasonable in nature and carried out in a reasonable manner, take the particular circumstances into account. Examples of reasonable management action include:

- setting reasonable performance goals, standards and deadlines
- allocating work to a worker
- rostering and allocating working hours where the requirements are reasonable
- transferring a worker for operational reasons
- deciding not to select a worker for promotion where a reasonable process is followed and documented
- informing a worker about unsatisfactory work performance when undertaken in accordance with any workplace policies or agreements such as performance management guidelines
- informing a worker about inappropriate behaviour in an objective and confidential way
- implementing organisational changes or restructuring.

Discrimination and harassment

Discrimination generally occurs when someone is treated unfairly because they have a particular characteristic or belongs to a particular group of people such as age, race, or gender. For example, it would be discriminatory not to hire or promote a woman because she is pregnant or may become pregnant.

Harassment involves unwelcome behaviour that intimidates, offends or humiliates a person because of a particular personal characteristic such as race, age or gender.

It is possible for a person to be bullied, harassed and discriminated against at the same time. However unlike bullying, discrimination and harassment do not have to be repeated and are based on some characteristic of the person.

Under some circumstances it may be unlawful to discriminate or harass a person in the workplace (anti-discrimination, equal employment opportunity, workplace relations and human rights laws deal with these matters). The WHS Act includes specific protections against discriminatory conduct for persons raising health and safety concerns or performing legitimate safety-related functions.

Appendix A provides contact points about matters relating to discrimination and harassment.

Workplace conflict

Workplace conflict is generally not considered to be workplace bullying. This is because not all conflict is negative—when conflict is at a low level and is task based, it can benefit an organisation by generating debate leading to new ideas and innovative solutions. It does not always pose a risk to health and safety. However, in some cases, conflict that is not managed may escalate to the

point where it fits the criteria for workplace bullying.

Workplace Violence

Workplace violence is any action, incident or behaviour in which a person is assaulted, threatened, harmed or injured in circumstances relating to their work.

Internal workplace violence is that which takes place between workers, including managers and supervisors. External workplace violence is that which takes place between workers and clients or the general public.

If workplace bullying leads to workplace violence (i.e. the behaviours that are physically harmful, threatening or assaulting) it should be reported to the police because these are criminal matters.

Appendix A provides contact points about matters relating to workplace violence.

1.3 Who has duties in relation to workplace bullying?

Everyone at the workplace has a duty or can help to ensure that workplace bullying does not occur.

A person conducting a business or undertaking has the primary duty under the WHS Act to ensure, so far as is reasonably practicable, the health and safety of workers and that other persons at the workplace are not put at risk from the work that is carried out. 'Health' is defined as both physical and psychological health. This means a person conducting a business or undertaking's duty includes ensuring so far as is reasonably practicable, that risks to the psychological health of workers arising from the work are managed.

A person conducting a business or undertaking must also:

- provide and maintain a work environment that is without risks to health and safety
- provide and maintain safe systems of work
- monitor the health and safety of workers at the business or undertaking and the conditions at the workplace, to ensure that work related illnesses and injury are prevented
- provide appropriate information, instruction, training or supervision to the worker and other person at the business or undertaking to allow work to be carried out safely.

Officers, such as company directors, must exercise due diligence to ensure the business or undertaking complies with the WHS Act and Regulations. This includes taking reasonable steps to ensure the business or undertaking has and uses appropriate resources and processes to eliminate or minimise risks associated with workplace bullying.

Workers also have a duty to:

- take reasonable care for their own health and safety
- take reasonable care that their acts or omissions do not adversely affect the health and safety of other persons
- comply, so far as is reasonably practicable, with any reasonable instruction given by the person conducting a business or undertaking. This includes cooperating with reasonable policies and procedures such as a workplace bullying policy.

A similar duty to that of a worker is placed on other persons at the workplace, for example, visitors and clients.

1.4 What is required to manage the risk of workplace bullying?

The risk of workplace bullying can be eliminated or minimised by creating a work environment where everyone treats each other with dignity and respect. It is best dealt with by taking a preventative approach and following a systematic risk management process to:

- **identify** if bullying exists in the workplace or if there are work characteristics that may increase the risk of bullying
- if necessary, **assess** the likelihood of workplace bullying occurring and its impact

- implement **control** measures, and
- **review** and monitor the effectiveness of the control measures.

Chapter 2 of this Code provides more detailed information on how the risk management process can assist in addressing workplace bullying.

Further guidance on the general risk management process is available in the *Code of Practice: How to Manage Work Health and Safety Risks*.

Consulting your workers

Section 47: The person conducting the business or undertaking must consult, so far as is reasonably practicable, with workers who carry out work for the business or undertaking who are (or are likely to be) directly affected by a work health and safety matter.

Section 48: If the workers are represented by a health and safety representative, the consultation must involve that representative.

Consultation involves sharing information, giving workers a reasonable opportunity to express views and taking those views into account before making decisions on health and safety matters.

Throughout the risk management process it is essential to consult with workers and their health and safety representative (if any).

Consultation with workers must occur when:

- identifying and assessing workplace bullying risks
- making decisions about control measures to deal with workplace bullying
- making decisions about developing or reviewing policies and procedures including hazard reporting and investigation procedures on workplace bullying
- making decisions about developing information and training on workplace bullying, and
- proposing changes to the way work is performed as this may give rise to the risk of workplace bullying.

For an owner of a business with five workers consultation could involve having regular discussions with workers (for example, a toolbox talk) about health and safety including telling them that workplace bullying is not tolerated and reminding them about policies or procedures. This allows workers to raise any health and safety concerns or issues and reminds them of expected behaviours. It can also encourage workers to speak up about bullying and know who to report any concerns to.

For a larger businesses workplace bullying policies and procedures can be developed in consultation with health and safety committees or health and safety representatives (HSR). For example, a monthly meeting may be held with the health and safety committee to discuss workplace issues, review the risk management process and seek worker input on the development of new policies and procedures.

Providing workers with information

There are a number of ways information can be given to workers including:

- talking directly with workers by holding team meetings, tool box talks or speaking one-on-one with them at the beginning of the working day
- running more formalised information and training sessions
- handing out company newsletters or pamphlets
- including information sheets in payslips
- putting up posters around the workplace such as in kitchens, lunchrooms or an office that workers have access to
- posting intranet announcements
- providing information through email messages.

Appendix B provides an information sheet that businesses can give to workers so they know what

to do if they feel they are being bullied.

Consulting, co-operating and co-ordinating activities with other duty holders

Section 46: If more than one person has a duty in relation to the same matter, each person with the duty must, so far as is reasonably practicable, consult, co-operate and co-ordinate activities with all other persons who have a work health or safety duty in relation to the same matter.

In some situations there may be a risk of a worker being bullied by a worker of another business who works at the same workplace. All persons conducting a business or undertaking are required to consult, cooperate and coordinate activities with other persons who have a health or safety duty relating to the same matter, so far as is reasonably practicable. This means ensuring policies and procedures on workplace bullying are consistent and there is an agreed approach to dealing with bullying hazard reports.

Further guidance on consultation is available in the *Code of Practice: Work Health and Safety Consultation, Cooperation and Coordination*.

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2 MANAGING THE RISK OF WORKPLACE BULLYING

2.1 Identifying the hazards

The first step in the process is to find out:

- a) whether bullying exists in the workplace
- b) if there is the potential for bullying to occur at some point in the future.

There may not be obvious signs of bullying at the workplace but this does not mean it is not occurring or work characteristics that may increase the risk of bullying are not present.

There are a number of factors that can increase the likelihood of workplace bullying including:

- presence of work stressors – high job demands, limited job control, low levels of support, organisational change, role conflict and ambiguity, job insecurity, organisational injustice, an acceptance of unreasonable workplace behaviours or lack of reasonable behavioural standards
- specific leadership styles
 - autocratic leader behaviour that is restrictive and directive and does not allow workers to be involved in decision making
 - laissez-faire (or absent) leadership behaviour where little or no guidance is provided to workers or responsibilities are inappropriately and informally delegated to subordinates
- systems of work – lack of resources, lack of training, uncertainty about job roles and the way work should be done, poorly designed rostering, unreasonable performance measures or timeframes, lack of support systems
- social environment – work group hostility, envy, group pressure to conform
- individual characteristics – personality, social skills, behaviours, perceived employability, vulnerable groups, ways of coping.

It is important to recognise that these factors may also be interrelated.

To identify these factors, a person conducting a business or undertaking should:

- talk to workers to find out if bullying is occurring or if they think it might occur in the future (for some businesses, running a confidential survey may be useful)
- observe and check if work characteristics create circumstances where bullying may occur
- monitor patterns of absenteeism, sick leave, staff turnover, grievances, injury reports and other such records to establish any regular patterns or sudden unexplained changes
- monitor any changes in workplace relationships between workers, customers and/or managers
- seek feedback when staff are leaving the business by holding exit interviews
- seek feedback from managers/supervisors or any other internal and external party.
- monitor hazard reports, issues raised by health and safety representatives and health and safety committees and workers compensation claims.

There may be particular groups of workers that are more at risk of being exposed to workplace bullying including:

- part-time workers
- young workers
- new workers
- apprentices/trainees
- injured workers and workers on return to work plans
- piece workers
- workers in a minority group because of ethnicity, religion, disability, gender or sexual preferences.

If a person conducting a business or undertaking identifies that bullying is:

- a) occurring (or has occurred) in their workplace – they must decide quickly what action should be taken and implement those actions to eliminate or minimise the risks to health and safety so far as is reasonably practicable.
- b) not currently occurring but there is a possibility for it to occur – they should determine how serious the risk of it occurring is and put in place control measures to prevent it.

2.2 Assessing the risks

Under the WHS Act a risk assessment is not mandatory in every circumstance, but it should be conducted if there is a likelihood that bullying will occur at the workplace.

A risk assessment will help determine:

- the frequency and severity of the bullying behaviours
- what actions should be taken
- how urgently action needs to be taken
- what control measures should be implemented
- the effectiveness of any existing control measures in place.

A risk assessment should also assess whether the workplace has enough control measures in place to eliminate or minimise the risk.

When assessing the likelihood of workplace bullying occurring, it is important to recognise factors may be interrelated and therefore should not be considered in isolation. For example, a workplace with high job demands, poor communication channels and a manager that provides no clear direction will create a work environment where there is a higher risk of workplace bullying.

A risk assessment may not be necessary if the action needed to respond to the matter is already known.

2.3 Controlling the risks

Risks associated with workplace bullying must be eliminated so far as is reasonably practicable or if this is not reasonably practicable, must be minimised. This can be done by implementing:

- general workplace management strategies
- specific workplace bullying strategies.

A combination of strategies may be necessary depending on the situation. If these strategies already exist and it is identified that bullying is occurring or likely to occur, a review of the control measures should be undertaken.

Implement general workplace management strategies

General workplace management strategies should suit the size and nature of the business as well as the type of work being carried out. For example, a small business may be able to manage the risk of workplace bullying without formal policies and procedures, however, a business with 300 workers may need a number of policies and procedures in place. Whatever the size and nature of the business, workers should be trained and supervised in what behaviours are expected and actions they need to take to manage the risk of workplace bullying.

a) Create a workplace where everyone is treated with dignity and respect

- Ensure management and others have a genuine commitment to not tolerate unacceptable behaviours in the workplace.
- Develop a code of conduct or policies so everyone is aware what behaviours are expected and what behaviours are unacceptable.
- Develop procedures to respond to bullying hazard reports in a confidential, reasonable and timely manner.
- Develop and implement recruitment and performance management procedures and ensure they are implemented in a reasonable manner.
- Empower supervisors and managers to respond effectively to health and safety incidents

including those involving workplace bullying.

- Facilitate teamwork and cooperation and discourage exclusive 'clubs' and cliques.

b) Design appropriate systems of work

- Design and clearly define jobs and seek regular feedback from staff about roles and responsibilities.
- Develop and implement standard operating procedures for particular tasks or work activities.
- Review and monitor workloads and staffing levels.
- Where practicable, allow workers to have some say in how they manage their workloads and be involved in decision making.
- Plan all change and consult with workers affected as early as possible.
- Develop and maintain effective communication throughout workplace change such restructuring or downsizing.

c) Develop productive workplace relationships

- Promote positive leadership styles by recruiting people who are competent in people management into management roles and provide training in people management.
- Provide training for managers, supervisors and workers on:
 - communicating effectively and engaging workers in decision-making
 - providing constructive feedback both formally and informally, and
 - effectively managing workloads.
- Mentor and support new and poor performing managers and workers.
- Implement and review performance management improvement/development plans.
- Ensure supervisors act on inappropriate behaviour in a timely manner.
- Ensure employee assistance programs are available and accessible.
- Develop and implement an issue resolution process in accordance with the requirements under the WHS Act.

Implement specific workplace bullying strategies

It is important that a clear message is promoted that bullying is not tolerated in the workplace. Persons conducting a business or undertaking should ensure that all workers are aware of any workplace bullying policies and hazard reporting procedures so bullying reports can be responded to.

a) Develop and implement a workplace bullying policy

It is advisable to develop a workplace bullying policy that makes a clear statement that the organisation is committed to preventing workplace bullying. It can be a stand-alone policy or incorporated into an existing human resource policy or handbook. For a very small business it can be a clear statement provided to workers that workplace bullying is not tolerated.

Whatever form the policy takes, it should set out the standards of expected behaviour and include a statement that inappropriate behaviour will not be tolerated. It should also contain:

- a definition of working bullying with examples
- the consequences for not complying with the policy
- the process for reporting workplace bullying and encouraging workers to use the process
- the process for managing vexatious reports
- accountability and responsibilities of categories of staff, i.e. who makes the decisions
- contact points within the organisation if a person has questions
- the investigation process (where necessary).

An example of a workplace bullying policy is at [Appendix C](#).

b) Encourage hazard reporting of workplace bullying

If a worker considers they are being bullied, they will be more likely to report it if they know there is

an agreed hazard reporting procedure in place and that it will be followed as soon as a report is received.

It is important that workers know how they can report allegations of bullying including knowing who they can talk to in the business and that the report will be given serious consideration.

Hazard reporting can be encouraged by:

- making it clear that victimisation of those who make reports will not occur
- implementing a workplace bullying policy in consultation with workers
- promoting hazard reporting procedures and ensuring it is available to all workers
- providing consistent, effective and timely responses to hazard reports, and
- regularly providing information (e.g. quarterly) to HSRs and/or committees on numbers of hazard reports made, how they were resolved and what control measures and strategies were put in place to address underlying risks.

Chapter 3 provides further information on hazard reporting.

c) Provide training on workplace bullying to workers, supervisors and managers

Workers including managers and supervisors should understand their roles and have the appropriate skills to carry them out.

All workers, supervisors and managers must be trained to recognise and respond to workplace bullying as it occurs. A training program should cover:

- the workplace bullying policy and procedures
- strategies used to prevent bullying from occurring
- how individuals can respond to workplace bullying (workers, bystanders and managers)
- how to report workplace bullying
- how bullying reports will be responded to
- where to go for more information and assistance.

Training should be tailored to meet the needs of workers and suit the work experience, gender, disability, ethnicity and/or levels of literacy of the group.

Face-to-face training with facilitated role plays, group work and opportunities to ask questions are often most effective. It is not appropriate to include specific examples of bullying reports that have occurred in the workplace or details of investigation outcomes.

Workers who deal with hazard reports about workplace bullying should undertake specific training so they are equipped to respond to the report effectively.

Information and training on workplace bullying should be incorporated in induction training including explaining:

- any relevant policies and procedures
- how workplace bullying should be reported
- how workplace bullying hazard reports are managed.

d) Minimise the risk for workers who are more susceptible to bullying

- Develop and implement systems to support and protect workers at higher risk of bullying, for example, a 'buddy' system for new workers.
- Train line managers to identifying bullying behaviour and provide support to workers at higher risk.

2.4 Monitoring and reviewing

The risk management process should be a continual cycle in order to eliminate or minimise the risk of workplace bullying. Once control measures and strategies have been implemented, these should be monitored and reviewed to ensure they are effective in managing the risk of workplace bullying. If the control measures and strategies do not work, it is important to analyse the situation

further to determine how to fix the problem.

A review must be carried out in consultation with workers and their health and safety representatives. Information for a review can be obtained from the same sources used when identifying hazards, for example:

- confidential surveys
- exit interviews, or
- records of sick leave.

Gathering evidence to answer the following questions may assist in a review:

- Are supervisors and managers trained to recognise and deal with workplace bullying? Has the training been effective?
- Has awareness been raised amongst staff about workplace bullying?
- Are workers empowered to speak up about unacceptable behaviour?
- Has there been a measured change in workplace morale and behaviour over time?
- Are reports of bullying being responded to quickly and effectively?

A review can be conducted at any time, but is recommended that it is conducted:

- when workplace bullying has been substantiated
- at the request of a health and safety representative or a health and safety committee
- when new or additional information or research about bullying becomes available
- according to a scheduled review date.

Results of reviews should be reported to managers, health and safety representatives (if any) and health and safety committees (if any).

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3 REPORTING WORKPLACE BULLYING HAZARDS

Like other workplace hazards, workers can report workplace bullying hazards verbally or in writing by:

- informing a supervisor, manager or business owner
- informing their health and safety representative
- using established hazard reporting procedures.

Implementation effective hazard reporting procedures will help identify and respond to bullying reports in a consistent and reasonable way. They should be used each time a report is made and be flexible enough to fit the different circumstances of each report. Procedures should be developed to suit the size and structure of the business. A procedure should:

- be in plain English and, if necessary, available in other languages
- outline what is involved
- clearly state the roles of responsible individuals such as managers and supervisors
- advise what records should be kept
- outline issue resolution procedures
- identify external avenues available to workers where grievances have been unable to be resolved internally.

A procedure must be developed in consultation with workers and health and safety representatives (if any) and should set out broad principles to ensure the process is objective, fair and transparent. They should be available to all supervisors, managers and workers and ensure that everyone clearly understands what to expect when a bullying hazard is reported.

If the matter is of a serious nature, it may be more appropriate for an investigation to be conducted. Chapter 4 provides further detail on when an investigation may be appropriate.

3.1 Responding to a bullying hazard report

The following principles should be applied when responding to workplace bullying hazards:

Treat all matters seriously	Take all reports seriously. Assess all reports on their merits and facts.
Maintain confidentiality	Ensure confidentiality for all parties involved. Details of the matter should only be known by those directly concerned.
Act promptly	Reports should be dealt with quickly, courteously, reasonably and within established timelines. All relevant parties should be advised of how long it will likely take to deal with the report and should be kept informed of the progress to provide reassurance that the report has not been forgotten or ignored. If additional time is required to address the issues, all relevant parties should be advised of the additional time required and the reasons for the delay.
Do not victimise	It is important to ensure anyone who reports a bullying hazard is not victimised for doing so. The person accused of bullying and any witnesses should also be protected from victimisation.
Support all parties	Once a report has been made, the parties involved should be told what support is available (e.g. employee assistance programs) and allowed to have a support person present at interviews or meetings (e.g. health and safety representative, union representative or friend).
Be neutral	Impartiality towards everyone involved is critical. This includes the way people are treated throughout process. The person responding to the hazard report should not have been directly involved. They should also avoid any personal or professional bias.

Communicate process and outcomes	All parties should be informed of the process, how long it will take and what they can expect will happen during the process and at the end. Reasons for any actions that have been taken and, in some circumstances, not taken should be explained to the parties.
Keep records	Documentation is important to any hazard reporting process. Records should be made of any conversations, meetings and interviews detailing who was present and the agreed outcomes.

When responding to a report, the person alleging they are being bullied should be provided with options to resolve the matter such as:

- speaking directly to the person bullying themselves (this is not always possible as there may be a concern with personal safety and negative consequences)
- reporting it to their supervisor or manager and ask them to deal with the hazard or another person in the business for advice and support
- speaking to a health and safety representative or union representative.

In some circumstances, a person may not feel they can raise or report the matter at the workplace, for example, if the most senior person in the business is the alleged bully. If this is the case, the situation can be reported to the regulator who may provide options to respond to the matter.

Any response to an alleged bullying report should also follow the principles of natural justice (which are designed to protect all parties) and provide a clear process to explain how the report will be handled and resolved.

Principles of natural justice

- The person who is alleged to have committed the bullying should be treated as innocent unless the allegations are proved to be true.
- Allegations should be investigated promptly.
- All allegations need to be put to the person they are made against.
- The person the allegations are made against must be given a chance to explain his or her version of events.
- If the complaint is upheld, any disciplinary action that is taken needs to reflect the seriousness of the matter.
- Right of appeal is explained.
- Mitigating factors should be taken into account when assessing if disciplinary action is necessary.

3.2 Issues resolution process

Where workplace bullying hazard report has not been resolved through the hazard reporting procedure, an issues resolution process may be used (in some businesses, this may be called a grievance procedure).

What is a default issue resolution procedure?

The WHS Act encourages PCBUs to agree on issue resolution with their workers. If there are no agreed procedures, the default procedure for issue resolution under the WHS Regulation must be followed. The default procedure includes the minimum requirements for any agreed procedures.

In attempting to resolve the issue, the default procedure requires the parties to have regard to relevant matters, including:

- the degree and immediacy of the risk to workers or other persons
- the number and location of workers and other persons affected by the issue
- the measures, both temporary and permanent, that must be implemented to resolve the issue
- who will be responsible for implementing the resolution measures.

What happens after an issue has been resolved?

If the issue is resolved, details of the issue and the resolution must be set out in a written agreement, if any party to the issue requests this.

If a written agreement is prepared:

- all parties to the issue must be satisfied that it accurately reflects the resolution
- the agreement must be provided to all people involved with the issue and (if requested) to the health and safety committee at the workplace.

At any stage in the issue resolution process, a worker can still bring a work health and safety issue to the attention of their health and safety representative.

What if the issue is not resolved?

If reasonable efforts have been made to resolve an issue and it remains unresolved, any party to the issue can ask the regulator to appoint an inspector to assist at the workplace. There does not have to be agreement about whether reasonable efforts have been made to resolve the issue in order for an inspector to be requested. As long as one party considers that reasonable efforts have been made, an inspector can be requested.

The inspector's role is to assist in resolving the issue. An inspector could exercise any of their compliance powers under the WHS Act, including providing advice, investigating contraventions or issuing an improvement notice.

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4 INVESTIGATION STAGE

Note: There may also be obligations under other workplace laws that are relevant and should be considered prior to proceeding to investigation, for example, obligations under the Fair Work Act 2009.

Where a serious allegation has been made, an investigation may be the most appropriate way to manage it. Investigations should be impartial and objective. They should focus on whether or not an allegation of workplace bullying is substantiated or not, or if there is insufficient information to decide either way.

Once it has been determined that an investigation will be undertaken, the person conducting a business or undertaking should decide:

- who will conduct the investigation
- how the investigation will be conducted
- what the investigation is to achieve
- what support needs to be provided to the parties involved
- how outcomes of the investigation are to be communicated to those involved.

The principles of natural justice should also be applied when investigating to workplace bullying hazards.

4.1 When should a report be investigated?

An investigation should be undertaken for bullying allegations:

- involving senior staff/management or business owner
- covering a long period of time
- involving multiple workers
- involving vulnerable workers
- where other issue resolution processes have not been able to resolve the issue.

4.2 Who should conduct the investigation?

Investigations should always be carried out by an unbiased and suitably trained person.

If being led internally, it is important to ensure all parties have confidence in the neutrality of the investigator and they are suitably qualified to lead the investigation. If this is not possible, an external investigator may be recommended.

If an external person is being engaged, they should be suitably qualified to undertake such an investigation.

To ensure the independence of the investigation and the acceptance of the findings by all parties, an investigation by an external suitably qualified person may be preferable. For small businesses, there may be no option but to engage an external person to carry out the investigation. In some circumstances, this may be the WHS regulator.

4.3 Informing the parties of the investigation

As soon as it is decided that investigation will be undertaken, both parties should be told about the investigation procedure and their rights and responsibilities. The discussion should outline:

- who will conduct the investigation
- the expected timeframes of the investigation
- how the issue will be investigated (e.g. interviews with the parties and any witnesses, viewing documentary evidence)
- who will receive copies of any statements and records of interview, if obtained
- who can be present at interviews
- whether parties can refuse to participate
- what support mechanisms will be in place for each party

- what interim measures will be taken to ensure the safety and welfare of the parties during the investigation (e.g. suspending the person accused of the bullying behaviour pending the outcome of the investigation, or reassigning them to other duties until the investigation is complete)
- how the parties will be kept informed throughout the investigation.

4.4 Outcomes of an investigation

At the end of an investigation, the investigator will provide a report to the person conducting a business or undertaking who will then use the findings of the investigation to make a decision. This decision must be communicated to the parties involved.

An investigation may find that a report of bullying is not substantiated and no further action can be taken. If the allegation cannot be substantiated, this does not mean the bullying did not occur and assistance should be provided to resolve it. This may involve mediation, counselling, changing working arrangements or addressing other organisational issues that may have contributed to the behaviour occurring. Mediation is a voluntary process where an impartial third party (preferably a trained mediator) assists the parties put their respective cases before each other. The role of a mediator is to assist both parties understand the perspective of the other and to find an agreement the parties are willing to abide by.

If the allegation is found to be vexatious or malicious, counselling should be provided for the person who submitted the hazard report. This action should be considered very seriously and should only be undertaken in the rarest of circumstances.

If allegations are found to be substantiated, appropriate actions should be taken consistent with the business's policies and procedures. The strategies will be different in each situation and will depend on the severity and frequency of the bullying, the size and structure of the business. Such actions may include:

- gaining a commitment that the behaviour will not be repeated
- providing information to all workers to raise the awareness of bullying
- providing training (i.e. leadership or communication training)
- providing coaching, counselling support and/or mentoring
- reviewing the workplace bullying policy (if any)
- requiring an apology (if requested and an apology can be sincerely given)
- requiring a verbal or written warning
- regular monitoring of behaviours
- transferring a worker to another work area
- demotion, dismissal or other actions subject to workplace relations laws.

In some cases, a combination of strategies may be appropriate.

4.5 Actions after an investigation

After an investigation, there should also be a follow-up review to ensure the wellbeing of the parties involved and actions taken to stop the bullying have been effective.

Parties involved in the investigation may require support following the investigation, for example:

- offering professional counselling
- redressing any inequality resulting from the bullying behaviour
- re-instating of any lost privileges resulting from the bullying behaviour (e.g. re-crediting leave)
- mentoring and support from a senior manager
- providing training and relevant professional/skills development
- ongoing formal/informal monitoring
- organising an opportunity to work in a new area if appropriate (this should only be done there is no risk of bullying in the new area).

Reviewing the work environment

After addressing a specific bullying issue, a person conducting a business or undertaking should also examine the work situation to identify and address any underlying work environment risk factors present at the workplace. Chapter 2 provides information on the factors to look for and measures that can be used to address them. Monitoring and review should also be undertaken to check whether new or additional risk control measures need to be implemented.

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APPENDIX A – OTHER RELEVANT LAWS

Anti-discrimination laws

State and federal anti-discrimination laws prohibit behaviour that amounts to discrimination or harassment. Some forms of bullying at work may breach these laws.

Federal laws

- Australian Human Rights Commission Act 1986
- Age Discrimination Act 2004 (Cth)
- Disability Discrimination Act 1992
- Racial Discrimination Act 1975
- Sex Discrimination Act 1984

State and Territory laws

- Australian Capital Territory Discrimination Act 1991 (ACT)
- New South Wales Anti-Discrimination Act 1977 (NSW)
- Northern Territory Anti-Discrimination Act 1996 (NT)
- Queensland Anti-Discrimination Act 1991 (QLD)
- South Australia Equal Opportunity Act 1984 (SA)
- Tasmania Anti-Discrimination Act 1998 (TAS)
- Victoria Equal Opportunity Act 1995 (VIC)
- Western Australia Equal Opportunity Act 1984 (WA)

More information can be found on the [Australian Human Rights Commission](#) website.

Criminal law

Physical assault and sexual assault are criminal matters and should be referred to the police. Other forms of bullying can be offences under criminal law (eg threats to harm someone and damage to property). Phone your local police station to report criminal forms of bullying.

Workplace relations

Employment conditions, grievances, disciplinary action and termination of employment are covered by workplace relations laws. For further information on workplace relations laws and bullying, persons conducting a business or undertaking and/or persons in control of premises should contact the Fair Work Ombudsman website at www.fairwork.gov.au or via the Fair Work Infoline on 13 13 94.

For public service employees, please contact your local state and territory workplace relations agencies.

If you're covered by the Western Australian workplace relations system (for example, if your business is not incorporated), see the Department of Commerce website at www.commerce.wa.gov.au/LabourRelations or phone 1300 655 266.

APPENDIX B – INFORMATION SHEET FOR WORKERS

WHAT TO DO IF BULLYING HAPPENS TO YOU

Workplace bullying is defined as repeated, unreasonable behaviour directed towards a worker or a group of workers, that creates a risk to health and safety.

Repeated behaviour refers to the persistent nature of the behaviour and can refer to a range of behaviours over time.

Unreasonable behaviour means behaviour that a reasonable person, having regard for the circumstances, would see as victimising, humiliating, undermining or distressing.

Types of unreasonable behaviour that may be considered as workplace bullying, when part of a repeated pattern of events, can include:

- abusive, insulting or offensive language or comments
- undue criticism
- excluding, isolating or marginalising a person from normal work activities
- withholding information that is vital for effective work performance
- unreasonably overloading a person with work or not providing enough work
- setting unreasonable timelines or constantly changing deadlines
- setting tasks that are unreasonably below or beyond a person's skill level
- denying access to information, supervision, consultation or resources such that it has a detriment to the worker
- spreading misinformation or malicious rumours
- changing work arrangements, such as rosters and leave, to the detriment of a particular worker or workers
- unreasonable treatment in relation to accessing workplace entitlements such as leave or training.

What you can do

Request the behaviour to stop

If you consider it safe to do so, you can firmly and politely tell the person that their behaviour is unreasonable and ask them to stop. They may not realise the effect their behaviour is having on you and this gives the person the opportunity to change their actions. You may want to ask your health and safety representative, union representative or supervisor to be with you when you approach the person.

Check if your workplace has a bullying policy in place

Ask your employer or person in charge at the workplace if there is a workplace bullying policy in place at the workplace. The policy should outline the standards of acceptable behaviour at work and how to raise workplace bullying issues.

Speak to someone you trust

Seek advice from someone you trust such as a friend, colleague, supervisor, health and safety representative, union representative or someone from the human resources. It may be helpful to describe the behaviour you are experiencing. They may also be able to assist you in developing a personal intervention plan.

Report it

Formally report the situation in accordance with the agreed hazard reporting procedures. Ask your manager, supervisor or health and safety representative if you are not sure what the procedure is. It may be under another name such as a grievance procedure.

Keep records

Keep a factual record of events that includes what happened, dates and times, who was involved, names of witnesses and, where possible, copies of any documents.

What if I can't raise it at my workplace?

If you are not able to raise the issue at your workplace or have tried and received no response, your regulator can provide you with further assistance. They will be able to discuss your situation with you and provide further advice.

Where to go for help

Lifeline 13 11 14

Beyond Blue 1300 224 636

<Insert list of appropriate agencies and contact details in each jurisdiction>

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APPENDIX C – EXAMPLE OF A WORKPLACE BULLYING POLICY

ABC Car Repairs

ABC Car Repairs believes all workers should work in an environment free from bullying.

Workplace bullying is defined as repeated, unreasonable behaviour directed towards a worker or a group of workers, that creates a risk to health and safety.

Repeated behaviour refers to the persistent nature of the behaviour and can refer to a range of behaviours over time.

Unreasonable behaviour means behaviour that a reasonable person, having regard for the circumstances, would see as victimising, humiliating, undermining or distressing.

Types of unreasonable behaviour that may be considered as workplace bullying, when part of a repeated pattern of events, can include:

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- excluding, isolating or marginalising a person from normal work activities
- withholding information that is vital for effective work performance
- unreasonably overloading a person with work or not providing enough work
- setting unreasonable timelines or constantly changing deadlines
- setting tasks that are unreasonably below or beyond a person's skill level
- denying access to information, supervision, consultation or resources such that it has a detriment to the worker
- spreading misinformation or malicious rumours
- changing work arrangements, such as rosters and leave, to the detriment of a particular worker or workers
- unreasonable treatment in relation to accessing workplace entitlements such as leave or training.

Single incidents can also present a risk to health and safety and will not be tolerated. ABC Car Repairs and its workers have a responsibility to ensure workers are not exposed to bullying.

ABC Car Repairs have procedures to deal with workplace bullying. All reports will be treated seriously and dealt with promptly, confidentially and impartially. ABC Car Repairs encourages all workers to take action to manage workplace bullying and to report workplace bullying in line with the procedure.

ABC Car Repairs will ensure that workers who make reports and anyone else who may be involved are not victimised. The contact person for reporting any alleged bullying in this workplace is <insert name>.

Consequences of breaches

If this policy is not adhered to, it may result in disciplinary action, including a warning, transfer, counselling, demotion or dismissal, depending on the circumstances.

Signed: _____

Date: _____



UniSA

Centre for
**Applied Psychological
Research**

Australian Workplace Barometer (AWB) results: Report on psychosocial safety climate and worker health in Australia

Prepared for

Safe Work Australia

SafeWork SA

Prepared by

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Foreword

The Australian Workplace Barometer project aims to provide science driven evidence of Australian work conditions and their relationships to workplace health and productivity, through a national monitoring and surveillance system.

This report was commissioned by Safe Work Australia to provide a summary of the results from data obtained from six Australian states and territories New South Wales (NSW), South Australia (SA), Western Australia (WA), Tasmania, the Australian Capital Territory (ACT) and the Northern Territory (NT). The data provides evidence relating to psychosocial risk factors in the working Australian population as well as an analysis of relationships between risk factors and employee health and motivational outcomes.

The research is guided by an innovative theoretical framework, Psychosocial Safety Climate (PSC) theory, which states that work conditions, worker health and engagement can be predicted when the psychosocial safety climate of an organisation, or work group is known. The report sets out to test this theory, and provide details on levels of PSC, demands, resources and health status, by industry by state so that risky industries can be identified.

It is intended that this information will be used to assist employers, employees and their representatives, practitioners, and policy makers in the development of policy to reduce work stress and related injury, and in the future as a means to evaluate current and future worker injury prevention and intervention strategies.

The outcomes published in this report were the result of jointly funded projects supported by:

- Australian Research Council (ARC) Discovery Grant: Working wounded or engaged? Australian work conditions and consequences through the lens of the Job Demands-Resources Model
- ARC Linkage Grant: State, organisational, and team interventions to build psychosocial safety climate using the Australian Workplace Barometer and the StressCafé
- SafeWork SA, and
- Safe Work Australia.

The report provides a summary of the key findings but the reader may refer to an edited volume for more supporting empirical evidence and statistical analyses in Dollard, M.F. & Bailey, T. S. (Eds)., *Australian Workplace Barometer: Psychosocial Safety Climate and working conditions in Australia*: Australian Federation Press to be published in 2012.

Please refer to the glossary in Appendix A for definitions.

Executive summary

Work related stress represents a 'huge cost' for worker health and productivity and is broadly regarded as an important social determinant of global health. Scholars predict that by 2020, stress-related illnesses such as depression and cardiovascular disease will be the leading causes of the global disease burden. Surveillance systems that are designed to monitor psychosocial risk factors in the workplace are increasingly recognised as the best practice method for national approaches towards worker injury prevention and intervention.

A superior understanding of how these aspects interact with and contribute to worker wellbeing can be obtained using a public health approach and methodically measuring levels of psychosocial safety climate, and other psychosocial risk factors such as demands and resources along with outcomes including health and engagement in the population. Surveillance provide a solid evidence base to support the development of prevention and intervention strategies as well as a means to evaluate the effectiveness of any implemented policies and programs. In addition, this approach supports the vision of the Draft Australian Work Health and Safety Strategy 2012 / 2022 to protect workers from harm and improve their health and productivity.

The Australian Workplace Barometer (AWB) evidence highlights the importance of improving working lives a national priority because this evidence shows that depression related to job strain and bullying costs Australian employers approximately AUD\$8 billion dollars per annum as a result of sickness absence and presenteeism. A prominent finding was that the cost was mostly due to workers showing *mild* symptoms of depression taking twice as many sick days as those who do not exhibit any symptoms of depression at all. The results suggest that potentially \$AUD17.84 billion in costs to the employer could be saved if the mental wellbeing of the 25 per cent least psychologically healthy working Australians could be raised to the levels of the 25 per cent most psychologically healthy workers.

Surveillance evidence is important in reducing costs associated with worker injury claims. Psychological injury claims are steadily increasing and incur the largest proportion of expense in relation to compensation claims (Safe Work Australia, 2012). The AWB project was developed in order to set national benchmarks and provide evidence needed to develop best practice standards in the area of worker psychological health and wellbeing, and provide crucial evidence for policy development, intervention targets and the provision of resources at the national, state and industry levels. The main objectives of the AWB project are to:

- Provide nationally representative data on psychosocial risk levels and working conditions
- Build upon existing knowledge and understanding of psychosocial risk factors such as bullying and harassment, and work-family conflict
- Investigate relationships between psychosocial risk and workplace outcomes such as employee health and productivity
- Determine the cost of poor employee wellbeing to businesses based on aspects such as depression, absenteeism and presenteeism
- Identify industries and occupations at risk, and
- Provide evidence to support strategies for prevention and intervention

The AWB research is driven by an emerging theory, Psychosocial Safety Climate (PSC) theory (Dollard & Bakker, 2010). This theory extends other well-known job stress theories such as the Job-Demands Resources (JD-R) model (Demerouti, Nachreiner, Bakker, & Schaufeli, 2001). There is ample empirical evidence already that shows that high levels of demands and low resources are a problem for worker health and poor engagement. We add new evidence to this stock of knowledge by proposing new theory and empirical evidence that suggests that PSC is a 'cause of the causes' of work stress factors; crucially PSC answers the question "where do job demands and resources come from?". PSC measures an organisation's priorities in relation to the protection of worker health and wellbeing. By assessing PSC, levels of demands and resources can be predicted. PSC also acts as a moderator, reducing the negative impact of psychosocial hazards on employee health and productivity outcomes. As a leading indicator of work conditions, employee health and productivity (Law, Dollard, Tuckey, & Dormann, 2011), the utility of PSC over lag indicators such as workers' compensation claims in informing preventative policy is clear.

Interviews were conducted with 3513 workers across the population in six Australian states and territories, regarding their working conditions. Results supported the main premises of PSC theory finding that PSC was significantly related with all demands, resources, health and productivity outcomes. Further analysis using hierarchical multiple regression showed that PSC explained 9 per cent of the variance in psychological health outcomes and 13 per cent of variance for engagement. A 10 per cent increase in PSC within organisations would lead to a 4.5 per cent decrease in bullying, a 4 per cent decrease in demands, a 4 per cent reduction in exhaustion and a 3 per cent reduction in psychological health problems as well as an 8 per cent increase in resources and a 6 per cent increase in engagement. There was also evidence that PSC was related to health and work outcome via its effect on demands and resources. These results strongly suggest that PSC is theoretically a logical upstream target for injury prevention as it is an antecedent for demands and resources *as well as* health and productivity outcomes.

We established a national benchmark for PSC. We assessed the mean level of PSC for AWB participants with no symptoms of depression. The national benchmark is a PSC score of 41 out of a possible 60 on the PCS-12 scale, which is the ideal standard for optimising employee health and productivity. State based industry differences were then calibrated for levels of PSC as well as risk due to poor health with high job demands and low job resources. Results indicate that state based interventions need to be specific in targeting the particular industries in each state or territory that are identified as being high risk.

For instance, results show high risk of poor psychological health within SA in particular for the Communications services, Personal and other services and Retail trades, which would likely benefit from state based strategies for intervention. Results also indicate that further examination of risk to wellbeing for the Electrical gas and water supply industry in ACT as well as the Health and community services industry in NT is warranted. Tasmanian workers would benefit from interventions focusing on Health and community services, Manufacturing and Personal and other services, which showed significant poorer outcomes compared to other industries in Tasmania. Two industries were deemed high risk across a number of states including Transport and storage and Accommodation, cafes and restaurants, thus requiring national strategies and campaigns for injury prevention and interventions.

Other at risk groups included workers aged between 25 – 34 years as they showed the poorest psychological health, likely due to factors such as competing work and family demands as well as entering the workforce following study, working hard with long hours to advance in their careers yet experiencing low levels of skill discretion. The youngest workers (18 – 24) exhibited the lowest levels of engagement. For younger workers the results suggest that increased skill discretion would likely improve their engagement.

Urban workers report slightly higher psychological demands compared to rural workers. However rural workers reported more physical demands, more work-family conflict and were slightly more at risk for poor mental and physical health outcomes suggesting additional resources and awareness for rural workers would be important for policy development.

For all workers there is concern with levels of bullying and harassment as the results from the AWB show that 6.8 per cent of the sample reported experiencing bullying, which is substantially higher than comparative prevalence rates of 1 to 4 per cent that generally occur when participants are presented with a similar bullying definition (Einarsen, Hoel, & Vartia, 2003). This is of particular importance for women as they report significantly higher levels of bullying and for significantly longer periods of time.

Attention needs to be paid to high levels of harassment in the workplace. Over 40 per cent of (41.9 per cent) males reported that they have been sworn or yelled at in the workplace. Over 20 per cent of workers report being humiliated in front of others with almost 20 per cent stating that they experience discomfort due to sexual humour. In addition 6.9 per cent of women experience unwanted sexual advances and 14.8 per cent of females in this sample experience unfair treatment due to gender. Urgent attention is needed to address these harassment issues in Australian workplaces.

Results also showed that working hours are a major issue in the workplace with over 40 per cent of participants working more than the national standard of 38 hours and 18 per cent working longer than 48 hours on average per week. This is of particular importance as work-family conflict was found to be one of the major contributors to poor health and wellbeing. For all workers, factors including PSC, emotional demands, work pressure, bullying, justice, rewards, and decision authority were significant contributors to poor psychological health, and prevention strategies should focus on addressing these aspects.

This report provides a snapshot of evidence emerging from the AWB study. By assessing leading indicators and psychosocial risk factors, groups at risk are identified to provide an evidence basis for targeted prevention and intervention. Suggestions are also made for specific factors focal to strategy and policy development, such as PSC, working hours and harassment as they will likely make the most impact on health and productivity outcomes. The results from this national surveillance project shifts attention away from lag indicators, such as compensation claims, and brings Australia up to international best practice standards for proactive psychosocial risk prevention and intervention policy implications, providing a science driven basis for improving working conditions and worker wellbeing. For the first time national standards, industry and occupational risks have been established with important implications for Australian workers, unions, employers, employer associations, community groups, practitioners, policy makers and other key stakeholders.

Introduction

There has been increasing recognition in Australia and internationally of the urgent need to address work factors that influence employee health and wellbeing with a particular focus on developing strategies for worker injury prevention (European Agency for Safety and Health at Work, 2007; Häusser, Mojzisch, Niesel, & Schulz-Hardt, 2010; LaMontagne, Keegal, Vallance, Ostry, & Wolfe, 2008; Leka & Jain, 2010; Leka, Jain, Cox, & Kortum, 2011; & LaMontagne, in review). Work related stress represents a 'huge cost' for worker health and productivity (European Agency for Safety and Health at Work, 2009) and more broadly is regarded as an important social determinant of global health (Commission on Social Determinants of Health, 2008). By 2020, stress-related illnesses such as depression and cardiovascular disease are forecast to be the leading causes of the global disease burden (Murray & Lopez, 1996).

The increased need to protect worker psychological wellbeing has arisen due to the recognition of the potential negative outcomes of psychosocial risk at work (Johnstone, Quinlan, & McNamara, 2011). These outcomes include increased rates of psychological illnesses such as depression (Murray & Lopez, 1996), physical health problems (Leka & Jain, 2010), declines in productivity due to work stress and poor worker health (LaMontagne et al., 2008; McTernan, Dollard, LaMontagne, in review), and rising costs associated with work-related injuries and workers' compensation claims (Comcare & Safety Rehabilitation and Compensation Commission, 2009).

There are several factors contributing towards the emerging recognition of psychosocial risk factors as a work health and safety issue at work around the world. First, globalisation is increasing competition and organisational change and is characterised by downsizing, job insecurity, work intensification, longer working hours and reduced resources (Green & McIntosh, 2001; Houtman, Goudswaard, Evers, & van de Bovenkamp, 2005; TNO Quality of Life, 2008). Increasing demands and reduced resources are thought to underlie bullying and harassment in the workplace (Bond, Tuckey, & Dollard, 2010). Second, new technologies threaten work-life balance with a disappearing distinction between work and family time, recovery, and leisure time (TNO Quality of Life, 2008). New technologies have also increased the opportunities for service work with knowledge and information based employment growing. Third, demographic changes mean that there are more older and migrant workers being employed that may face additional work health and safety risks. Through regular surveillance these factors are monitored and their effects can then be better controlled through prevention and intervention.

In Australia, workers' compensation statistics show a relatively consistent increasing trend in the rate of mental stress claims and associated costs. Although the frequency of stress claims somewhat decreases after 2005-06, potentially due to changes in legislation, rates are again on the rise (Safe Work Australia, 2012). Data from Safe Work Australia shows that in 2008-09 the median time loss at work due to mental disorder claims (11.8 weeks) was more than three times longer than the median time lost for all serious claims (3.8 weeks). It is therefore not surprising that the median payment associated with mental disorders (\$18 000) for 2008-09, was over 32 per cent higher than the median cost for all serious claims (\$12 200) (Safe Work Australia, 2012).

Research has consistently identified numerous workplace factors that contribute to poor employee health. Psychosocial risk factors found to correlate with employee health outcomes include workload, emotional demands, role conflict, bullying and harassment, feedback, opportunities for development, sense of community, autonomy, leadership, co-worker support, and organisational (Demerouti, Nachreiner, Bakker, & Schaufeli, 2001; Karasek & Theorell, 1990). In a major review, the World Health Organisation found that the influence of psychosocial risk at work is of increasing concern globally (Leka & Jain, 2010).

Consequently this empirical evidence has influenced regulatory bodies and multinational organisations to recognise the important effect that psychosocial risk factors play on employee health and wellbeing, as well as engagement and productivity. The International Labour Organisation (ILO) (International Labour Organisation, 1986) defined psychosocial risk as arising from the combination of job content, work organisation and management, environmental workplace conditions, and employees' competencies, and it is the interaction of all these variables that is recognised as having a potentially hazardous effect on employee health (ILO, 1986).

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Surveillance Systems

Attention has been given to the work stress issue in Australia because of rising rates of reported psychological injury claims, longer periods of time off due to psychological injury and escalating costs associated with the rehabilitation of employees with work related injuries (Leka & Jain, 2010; Safe Work Australia 2012). But these are lag indicators of the problem. In order to proactively address these issues a strategic focus on identifying leading indicators of stress is required, and surveillance which involves measuring workplace factors that lead to poor health outcomes, provides the means to do this. To date most research has been informed by studies conducted within industries which can not adequately inform national policy. In their overview Leka and Jain (2010) found that the surveillance of these factors at national level is growing steadily.

In a review of surveillance systems across the globe, Dollard, Skinner, Tuckey and Bailey (2007), identified 35 national surveillance systems of psychosocial risk across 20 countries, 16 of which were in Europe. Comprehensive psychosocial risk surveillance systems were also found in the North Americas, which had several systems in place. Many systems measure a wide range of psychosocial risk and health related factors as well as demographic variables. Researchers identified seven major stress related workplace characteristics that were commonly measured within these systems that included autonomy, skill/task variety, job demands, social support, feedback, task identify/meaning, job security and pay/remuneration (Dollard et al., 2007).

Organisational and individual based approaches to address psychosocial risk factors may not be adequate in alleviating poor health outcomes at work. National surveillance systems can be utilised by governments, unions and industry regulators as a mechanism to drive changes in organisational policies, practices and procedures that ensure employers are clearly addressing psychosocial risk factors and employee psychological health. The results can be used to set benchmarks, develop codes of practice and accountability methods to encourage best practice standards that keep workers safe from psychological harm. Surveillance systems also provide identification of emerging trends in a rapidly changing and globally competitive environment so that resources at the state and federal levels can be funnelled to the most important issues. Regular surveillance also allows for evaluation of the effectiveness of intervention and prevention programs.

Australia has very limited data for measuring psychosocial risk factors and working conditions. The most common method has been by focusing on compensation claims for psychological injury at work. As mentioned this is a lag indicator and does not provide an understanding of the factors that precede an injury claim. It also does not account for workers suffering psychological issues as a result of their work that do not put forward for compensation. The Household, Income and Labour Dynamics (HILDA) survey in Australia does provide some data on working conditions and income as well as general health and wellbeing. However, it is not comprehensive enough to identify the wide range of psychosocial risk factors at work to allow for appropriate analysis of relationships between risk factors and health or productivity outcomes.

The lack of effective psychosocial risk surveillance in Australia was identified by 26 experts from 14 different countries at a meeting during the 2nd International Commission on Occupational Health (ICOH) International Conference on Psychosocial Factors at Work, held in Okayama, 2005. Recommendations from this workshop identified that national surveillance of psychosocial risk factors was a chief Australian national research priority and required immediate action. The outcomes from this meeting fuelled an agenda that resulted in the development of the AWB.

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The Australian Workplace Barometer Project

The **Australian Workplace Barometer (AWB)** project aims to provide science-driven evidence of Australian work conditions and their relationships to workplace health and productivity. The AWB is a surveillance system that systematically monitors and benchmarks psychosocial risk factors in Australian workplaces and investigates their relationship to employee health and wellbeing and engagement outcomes. The project is supported by an ARC Discovery grant, an ARC Linkage grant, funding from Safe Work Australia and SafeWork SA, and involves the collaboration of industry experts and academics from across Australia and international institutions. The AWB tool was developed at the Centre for Applied Psychological Research (CAPR) located at the University of South Australia (Dollard et al., 2009).

The main objectives of the AWB project are to:

- Provide nationally representative data on psychosocial risk levels and working conditions
- Build upon existing knowledge and understanding of psychosocial risk factors such as bullying and harassment, and work-family conflict
- Investigate relationships between psychosocial risk and workplace outcomes such as employee health and productivity
- Determine the cost of poor employee wellbeing to businesses based on aspects such as depression, absenteeism and presenteeism
- Identify industries and occupations at risk, and
- Provide evidence to support strategies for prevention and intervention.

The AWB incorporates a combination of well-known psychometric measures and assesses a wide range of psychosocial risk factors and health related outcomes. The results from the AWB will assist in identifying lead indicators of employee psychological health and wellbeing. It will also assist in identifying the prevalence of outcomes such as sickness absence, depression and workers' compensation. Action can then be taken to tackle leading risk indicators, provide increased support for workers most at risk, implement better injury prevention strategies, as well as improve work conditions and health outcomes for all working Australians.

Theoretical basis of the AWB

The theoretical basis of the AWB is driven by Psychosocial Safety Climate (PSC) theory (Dollard, 2012). There is ample empirical evidence and large reviews that show that high levels of demands (work pressure, emotional demands) and low resources (low control, low support) are a problem for worker health (Häusser, Mojzisch, Niesel, & Schulz-Hardt, 2010; LaMontagne, Keegel, Louie, & Ostry, 2010), and poor engagement (Bakker & Demerouti, 2007). Increasingly scholars have been asking the question, "where do the job level psychosocial factors emerge from?". We add new evidence to this stock of knowledge by proposing new theory and empirical evidence to answer this question.

Recent research frameworks have articulated a hierarchy of causes in relation to work health and safety (Sauter et al., 2002). Psychosocial safety climate has been proposed by Australian and international researchers as the 'cause of the causes' of work stress. In this regard PSC is viewed as a

preeminent psychosocial risk factor (Dollard & Bakker, 2010; Dollard & Karasek, 2010; Hall, Dollard, & Coward, 2010; Idris, Dollard, & Winefield, 2011). To date, theoretical and empirical research in the work-related stress domain has mainly focused on job design, or individual causes of work stress (Kang, Staniford, Dollard, & Kompier, 2008). The problem is that the correct stress source may be misspecified. Accordingly, interventions have been mainly pitched at these levels, and the fact that they do not target the most distant stress source, being the factors that precede workplace stressors. This may be the reason that stress interventions at these levels alone appear to be ineffective. In line with the idea of a hierarchy of causes, we argue that the greatest impact on psychological health in the workplace should arise from targeting more distant causes, such as PSC.

Psychosocial safety climate refers to an organisation's true priorities for the protection of worker psychological health (Dollard & Bakker, 2010) that are largely reflected through enacted organisational policies, practices and procedures (Zohar & Luria, 2005). PSC is defined as 'policies, practices, and procedures for the protection of worker psychological health and safety' (Dollard & Bakker, 2010, p. 580; Dollard, 2012). PSC reflects senior management commitment, participation, and consultation in relation to stress prevention, and a communicated position from management about the *value* of human psychological health and safety at work (Dollard & Bakker, 2010). Psychosocial safety climate is a facet specific attribute of organisational climate, in that it is more specific to the psychological health of workers than other climate theories (Dollard & Bakker, 2010).

In a landmark report detailing the cost of work stress in Australia, the Productivity Commission (2010) reported that much less attention is given in work health and safety legislation and by workplace inspectors to work stress and psychosocial hazards as it is to physical hazards. It is commonly understood that industrial incidents that result in industrial death and injury (such as oil spills and aeroplane crashes) arise from a poor safety climate (Neal & Griffith, 2006), with good reason. Empirical evidence and reviews suggest that safety climate predicts safety outcomes (i.e., injury rates, incidents) (Christian, Bradley, Wallace, & Burke, 2009). For 30 years the safety climate construct has been studied extensively and been proposed as an underlying contributing factor towards the likelihood of physical hazards injury and workplace incidents (Reason, 1997; Zohar, 2010). Particularly in high risk industries the safety climate construct has been very useful for promoting best work health and safety practice (Cox & Cheyne, 2000). Yet a climate construct specifically for psychological health and safety had not been identified or proposed until recently.

Theories matter by helping to shape a body of knowledge, drawing attention to an issue thus enabling dialogue about the issue, and helping to shape public policy (Pfeffer, 2010). PSC theory addresses a major gap in theory that has emerged between safety climate and work stress research, making it a significant scientific and practical breakthrough in the work health, safety, and work stress literatures.

PSC theory builds on earlier work that identifies a link between work safety and work stress (for example, Glendon, Clarke, & McKenna, 2006). It is broadly consistent with organisational health frameworks (e.g., Cotton & Hart, 2003; Wilson, DeJoy, Vandenberg, Richardson, & McGrath, 2004) that emphasise the important influence of organisational climate on job design and in turn psychological health and morale (Hall et al., 2010). Although there is some research linking safety climate to the psychological health and wellbeing of workers (such as work pressure leads to job

strain that in turn leads to incidents, near misses, injuries, and errors), (Goldenhar, Williams, & Swanson, 2003), the safety climate construct has not been focally related to psychological health and wellbeing.

The definition of PSC falls within the scope of organisational climate (Reichers & Schneider, 1990) but following recommendations from Schneider (2000) it is more specific. Therefore PSC is a facet-specific aspect of organisational climate, a climate for psychological health and safety (freedom from psychological harm). Although in the genre of safety climate, PSC is a highly reliable work safety climate construct that focuses on psychological rather than physical health (Dollard, 2012). Moreover, Zohar and Luria (2005) argued that the best indicators of an organisation's true priorities are enacted policies, procedures and practices. Hence PSC focuses on shared perceptions of enacted organisational policies, practices, and procedures.

In sum, psychological health at work is an important work health and safety issue, yet the areas of work health and safety and work stress research have developed quite separately and in different traditions. Psychosocial safety climate is a unifying construct that draws together the fragmented areas of work health and safety as well as work stress research.

Psychosocial safety climate theory

Climate features of PSC

Scholars suggest that to demonstrate climate like characteristics, self-reported responses should be aggregated to the group or organisational level (Neal & Griffin, 2006). Psychosocial safety climate is a property of an organisation and is largely driven from senior management (Dollard & Bakker, 2010). As management and supervisors play a significant role in its development we expect that PSC will vary (climates will be created) between organisations, work units, and teams. Therefore in the study of PSC that uses self-report measures; individual perceptions of PSC should ideally be aggregated to the team, unit, or organisational level to reflect 'shared perceptions'.

Two main considerations should be given to demonstrate climate. Firstly the climate measure should vary sufficiently between units, teams, or organisations. Second there should be sufficient within-group agreement, indicating that perceptions converge within the group. Satisfying the first condition, our research suggests that the variance in PSC due to team or work unit effects is between 13 per cent and 22 per cent (Australia, Spain and Malaysia) (Dollard & Bakker, 2010), and variance shared between workers based in each organisation is approximately 12 per cent (Australia) (Law et al., 2011). In relation to the second issue, we have used the James, Demaree, and Wolf (1984) mean $r(WG)(j)$ agreement index as a measure of within-group rating agreement. Studies that have aggregated data using this measure shows acceptable levels of PSC agreement within groups; Dollard and Bakker, (2010) Australia $r(WG)(j) = .76$ (SD = 0:18); Law et al., (2011), was $r(WG)(j) = .90$, SD = .18; Idris, Dollard, Coward, & Dormann, (2012), in an Australian sample was $r(WG)(j) = .96$ (SD = .21), and in a Malaysian sample was $r(WG)(j) = .97$ (SD = .02).

A 12-item tool has been developed to assess PSC (Hall, Dollard, & Coward, 2010), and shows sound psychometric properties in terms of validity and reliability. Importantly PSC items have now been

included in the Job Content Questionnaire-2 (JCQ-2) developed by Prof Robert Karasek, University of Massachusetts. The JCQ-2 is arguably the most influential international tool used to collect data in relation to psychosocial factors.

PSC as a unique construct

It is important with the introduction of a new construct into the literature that it is accompanied by evidence that demonstrates its uniqueness. Using confirmatory factor analysis, Idris, Dollard, Coward and Dormann (2012) showed in an Australian sample (N = 126 workers in 16 teams within a primary health care organisation) and a Malaysian sample (N = 180 workers in 31 teams from different organisations) that PSC was uniquely different from related constructs, such as physical safety climate, perceived organisational support (Eisenberger, Stinglhamber, Vandenberghe, Sucharski, & Rhoades, 2002), and psychological safety (Edmonson, 1999). Aggregating PSC and using hierarchical linear regression, results showed that PSC was superior to these measures in predicting psychological health problems in both the Australian and Malaysian sample. An important observation was that altering the reference from psychological health to physical health in the PSC scales rendered the new measure, physical safety climate, not as important in its relationship to psychological distress and emotional exhaustion in the both samples, compared with PSC. Further the physical safety climate was significantly higher (better) than PSC as reported by the Australian primary health care workers, as would be predicted by the Productivity Commission findings.

PSC as a multilevel theory

PSC is theorised to be a macro or upstream factor, and therefore a leading indicator of psychosocial work conditions, psychological health, and engagement (Law, Dollard, Tuckey, & Dormann, 2011) (see Figure 1). Next we explain how PSC as influenced by senior management affects psychosocial working conditions and in turn psychological health problems and work outcomes via mediation paths. The following model adapted from Dollard and McTernan (2011) demonstrates the theoretical basis of the AWB project:

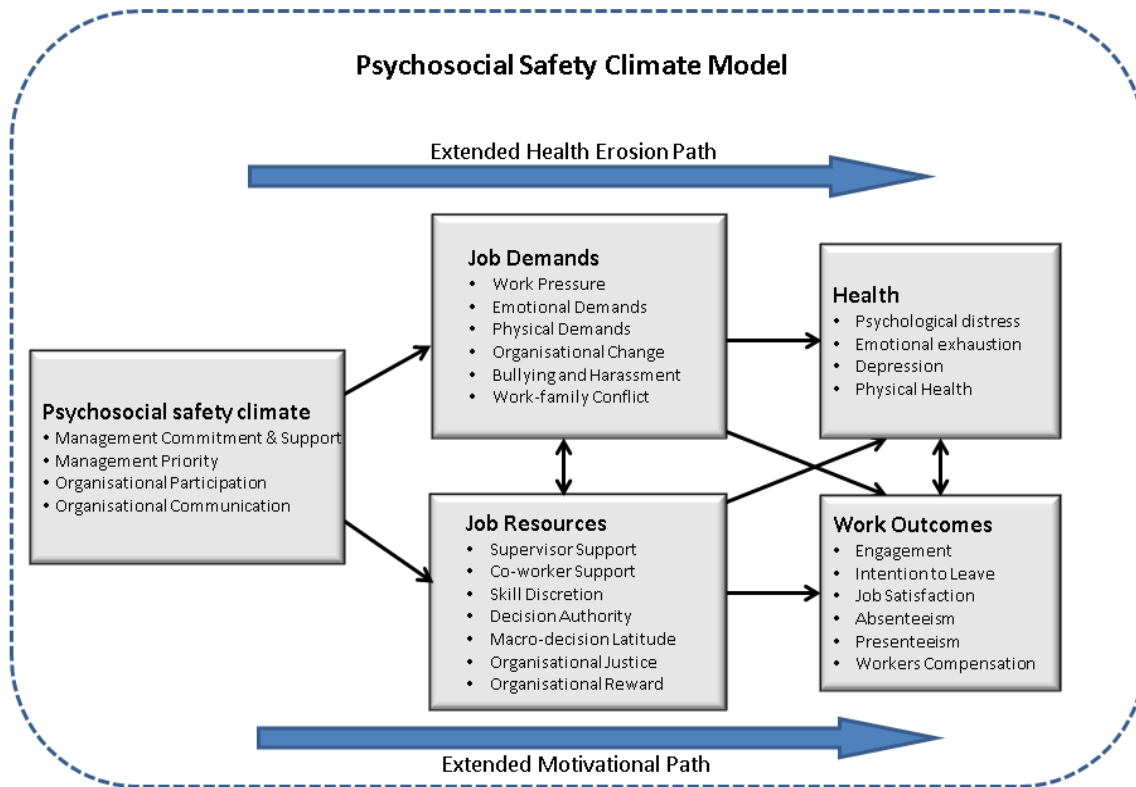


Figure 1. AWB theoretical model

The theoretical model of PSC extends the Job Demands-Resources (JD-R) theory (Demerouti, Nachreiner, Bakker, & Schaufeli, 2001), which builds on earlier work stress models such as the Demand-Control model (Karasek, 1979). According to JD-R, psychosocial work factors can be classified in terms of job demands (that is, things that have to be done) and job resources (that is, things that assist in achieving work goals), and can reduce job demands.

Job Demands-Resources theory considers psychosocial work conditions, particularly job demands (e.g., workload, emotional demands, bullying) as significant predictors of employee health via a health erosion pathway. Coping with chronic job demands leads to an erosion of a worker's energy reserve which in turn leads to negative responses (such as psychological distress), and in the longer term, psychological injury (such as depressive disorder) and health problems (including cardiovascular disease or musculoskeletal disorders) (Schaufeli & Bakker, 2004).

A second pathway is proposed in the JD-R model. The motivational pathway describes how adequate resources (e.g. control, support, rewards, procedural justice) are motivating and lead to engagement, and in turn to positive organisational outcomes such as improved performance (Bakker & Demerouti, 2007).

Building onto the JD-R model, jobs are by human design, and the levels and types of demands are a result of discretionary management decisions. PSC reflects the level of regard for psychological

health implications of the working conditions. Managers who are concerned about worker wellbeing will design job demands that are manageable. In a high PSC organisation, work demands would likely be manageable and psychological health problems less. In poor PSC organisations, managers would not be concerned about high work-loads, or other hazardous conditions, like high levels of bullying. This scenario is expected to be stressful for workers. PSC reflects level of regard for worker wellbeing and clearly precedes work conditions. We therefore extend JD-R theory and propose the *extended health erosion hypothesis* (see Figure 1):

Hypothesis 1. PSC is negatively related to psychological health problems through job demands.

We also expect that managers cognisant of psychosocial risks and concerned for worker psychological health and therefore would allocate sufficient resources. High levels of PSC would foster growth in other resources, such as co-worker support and local supervisor support. A management style supportive of psychological health would be attentive to organisational justice issues, and would provide adequate esteem and financial rewards. According to social exchange theory when workers perceive that their needs are being met, they will respond with greater levels of motivation, energy and commitment. These relationships are captured in the *extended motivation hypothesis* (see Figure 1):

Hypothesis 2. PSC has a positive effect on work engagement through job resources.

Cross-links between the health and motivation pathways are theoretically and practically important because they may explain for example, how work performance can be impaired through the reduced health of workers (Schaufeli & Bakker, 2004). Further there is empirical support for them (Hakanen, Bakker, & Schaufeli, 2006). In particular the relationship between job resources such as lack of control and psychological health problems is strongly supported in the literature (Karasek & Theorell, 1990).

Hypothesis 3. PSC is negatively related to psychological health problems through job resources.

These mediation hypotheses are important because they propose a work stress process PSC→work conditions→ stress outcomes.

Previous PSC Research Evidence

Several studies have been conducted to test these PSC theoretical premises. The first study was by Dollard and Bakker (2010) of 209–288 employees in 18 schools in an Australian state education department. Since PSC is considered a climate construct, researchers first aggregated individual PSC survey scores to the school level. The first important result noted that aggregated PSC was related to objective sickness absence rates at the school. Since PSC was estimated using only survey respondents, and given it related to sickness absence rates that were for *all* employees in the schools, and this latter measure was supplied by the department, results that were generated support the notion of PSC as an important pervasive robust group-level climate for health outcomes. Knowing about PSC levels, one could predict sickness absence rates in the school.

Next the researchers tested the three hypotheses above, using hierarchical linear modelling. Using a longitudinal design, PSC as an aggregate measure was significantly related to perceived demands (work pressure, emotional demands), resources (skill discretion but not decision authority), psychological health (psychological distress, emotional exhaustion) and engagement, all assessed 10 months later. In support of Hypothesis 1 they found the PSC predicted change in individual psychological health problems (psychological distress, emotional exhaustion) through its relationship with individual job demands (work pressure and emotional demands). In support of Hypothesis 2, PSC predicted change in employee engagement, through skill discretion. Hypothesis 3 was not supported in this study. The design of this study was strong because it used an aggregated measure of PSC, and a longitudinal design that controlled for baseline measures (which essentially partials out stabilities in the measures that could be due to individual factors); stronger causal conclusions can be drawn with this design compared to cross-sectional studies.

A South Australian cross-sectional telephone interview population study (AWB data) also tested the hypotheses. Participants were asked participants to name the organisation that they worked for (92 per cent of participants obliged) (Law, Dollard, Tuckey, & Dormann, 2011). PSC was again aggregated to the organisational level by combining data from organisations with at least four respondents (range 4 -33). The final multi-occupational sample comprised 30 organisations, and 220 employees. Using hierarchical linear modelling, in support of Hypothesis 1, researchers found that organisational PSC was negatively associated with demands (in particular workplace bullying and harassment) that in turn related to psychological health problems. In support of Hypothesis 2, PSC was also positively associated with resources (work rewards) and in turn work engagement. Hypothesis 3 was not tested.

The Malaysian study (Idris, Dollard, Coward, & Dormann, 2012) mentioned above also supported Hypothesis 1; PSC was related to demands that in turn were related to psychological health problems, but only in the Malaysian sample. The results may not have been replicated in the Australian sample due to there not being a large enough sample size to for the statistical analysis to find the desired effect.

In an Australian study of remote area nurses, Dollard and colleagues (2012) reasoned that if PSC was a climate construct and related to fairly stable organisational functions, then knowing about levels of PSC in work units should predict work conditions and health in *other* workers some time later. They used survey data from remote area nurses at Time 1 ($N = 202$, Time 1) aggregated to the unit level ($N = 48$) to assess PSC. Then 24 months later they surveyed completely different nurses in the same unit ($N = 163$ Time 2). Remarkably, using hierarchical linear modelling, they found that unit psychosocial safety climate predicted work conditions demands (workload) and resources (control, supervisor support) in other nurses in the same work unit 24 months later. There was support for Hypothesis 1 because the relationship between unit psychosocial safety climate at Time 1 and psychological strain at Time 2 was mediated via Time 1 demands (emotional demands), and Time 2 demands (workload). Hypothesis 3 was also supported as resources (job control) at Time 2 also mediated the relationship between PSC and psychological strain. Hypothesis 2 was not tested.

Several international studies support the hypotheses. Using a population-based sample consisting of 269 public and private employees from Malaysia, Idris and Dollard (2011) found support for

Hypothesis 1. PSC had an indirect effect on specific negative emotions (e.g., anger, depression) via job demands (emotional demands, role conflict). In support of Hypothesis 2, job resources (supervisor support, co-worker support) carried the influence of PSC onto engagement. They used structural equation modelling and multigroup analysis, and found that the model held in both the public and private sectors.

Using a different Malaysian sample, Idris, Dollard and Winefield (2011) went further and proposed that work performance could be affected via both the extended health erosion pathway and the extended motivational pathway. They used a random population based sample of 291 Malaysian employees (response rate 50.52 per cent) from the State of Selangor. Cross-sectional data were analysed using structural equation modelling, and bootstrapping in AMOS (Analysis of Moment Structures), which is a statistical technique used to test the amount of influence one variable has on another through any number of mediating variables. All data was analysed at the individual level since the identity of the organisations was not known. In support of Hypothesis 1, PSC was negatively related to job demands that in turn were associated with burnout (i.e. exhaustion and cynicism). PSC was related to performance, but only via its direct relationship to burnout. Hypothesis 2 was also supported: PSC was related to performance via its positive relationship with resources and in turn engagement.

In a Spanish study of 54 different organisations and 1204 employees (Escartín, Dollard, & Zapf, in review), low PSC aggregated at the organisational level was associated with higher levels of victim reports of bullying, and in turn, higher between-organisational levels of anger and emotional exhaustion. Perceived low PSC at an individual level was associated with higher reports of bullying by perpetrators themselves, and in turn higher individual exhaustion and anger, suggesting 'bullying is bad for you'. Notably Low PSC is a latent pathogen for hazardous behaviour.

In summary, research to date supports the proposition that PSC is a shared construct and a property of the organisation. Evidence backs PSC as a multilevel theory of work stress that combines organisation, job and individual level aspects. PSC acts as a trigger for both the health impairment and motivational pathways, thus justifying extending the JD-R model. The findings provide evidence of PSC as a 'cause of the causes' and as a lead indicator of workplace psychosocial hazards (high demands, low resources), psychological health and employee engagement.

PSC interacts with work conditions

This report focuses on the hypotheses articulated above because they help to tackle the question "from where do stressful work conditions arise?". It is important to note however that PSC also acts to moderate the relationship between work conditions, health and engagement outcomes. PSC supports employees to cope with their job demands, for example, by providing relevant policies or practices, such as flexibility in the workplace or opportunities to debrief after emotionally challenging experiences. PSC may be viewed as an organisational resource. Higher levels of resources to cope with demands should lead to active jobs (Karasek, 1979) and a reduction in stress. In high PSC workplaces, increased coping capacity may reduce the impact of demands on employee health outcomes. PSC could act like a safety signal indicating to workers that when it is present, that it is

safe to utilise available resources. It is not hard to imagine in some workplaces that accessing resources (e.g. actually utilising autonomy; accessing counseling) may have negative consequences.

Underpinning several of the main work stress theories is the proposition that high levels of resources (control, support) will moderate the demand → psychological health relationship. Since PSC is like an organisational resource we expect that it would moderate the detrimental effects of job demands on psychological health. Empirical support for the interaction of PSC and job demands (PSC X D) → psychological health was found in Dollard and Bakker (2010) and Law, Dollard et al., (2011). In a sample of police officers from an Australian state, PSC at high levels also moderates the effect bullying on post traumatic stress disorder (Bond, S., et al., 2010).

Dollard and Karasek (2010) argued that PSC could be operationalised in terms of actions taken, process used and progress made in a stress intervention project. Using a similar data set to Dollard and Bakker (2010), they found in schools with high levels of PSC as indicated by intervention actions, process and progress, that job control measured in terms of decision latitude acted to reduce the level of psychological distress and emotional exhaustion over time. In groups with low PSC, the relationship between control and the outcome measures was not as strong. In other words the intervention worked by modifying the work conditions – stress outcome relationship. High PSC did not increase the level of control, but rather enabled or facilitated its utilisation. Although they found evidence of the interaction of PSC and resources (PSC X R) → psychological health, they did not find support for PSC X D → psychological health.

Using a large multi-occupational population sample of 2343 Australian workers (from wave 1 of the AWB data, NSW and WA), Hall, Dollard, Winefield, Bakker, and Dormann (2012) tested the role of psychosocial safety climate (PSC) as a moderator between job demands (emotional and work pressure) and worker depression. Using moderated structural equation modelling, they found that PSC moderated the relationship at least as well as other well known resources i.e. job control, and social support. When PSC was low the relationship between demands and depression was significant and positive. When PSC was high, the detrimental (positive) relationship between demands and depression was reduced. They also theorised and found support for PSC as a moderator of the impact of depression on work engagement and satisfaction. High levels of PSC reduced the negative impact of depression on engagement that was evident under conditions of low PSC. Again this moderation effect was at least as good as other resources (control and social support). These results show that PSC has a beneficial impact for handling adverse work conditions, and also for helping with handling depression on the job. This is particularly important because some depression may arise from circumstances beyond the job.

Several major reviews of the Demand-Control-Support models (van der Doef & Maes, 1999; Häusser, et al., 2010), have found a lack of support for an interaction effect between demands and resources (i.e. control, support). A proposed reason is that studies fail to assess the context or climate (de Lange et al., 2003). This suggests that the DXR hypothesis may only be supported in high PSC contexts.

A study of Australian police officers theorised that the demand-resource interaction depends on the organisational context; that high levels of psychosocial safety climate will enable the safe utilisation

of resources to reduce demands (Dollard, Tuckey & Dormann, 2012). Researchers tested this hypothesis in a sample of police constables (Time 1, N = 319, Time 2, N = 139), from 23 police stations. PSC was measured by officer perceptions, aggregated to the station level. Controlling for Time 1 levels of distress, using hierarchical linear modelling, they found that D X R interaction only worked when there were high levels of PSC. High levels of emotional resources reduced the detrimental relationship between emotional demands and workgroup distress, but only when there were high levels of psychosocial safety climate in the police station. Importantly these results were validated when the PSC was also measured using a different sample of officers to those who participated at Time 2 (those who eventually left the study). The study demonstrated that PSC enabled resources to do their job (i.e. reduce the impact of demands).

Finally, PSC moderated the negative relationship between bullying/harassment and engagement (Law et al., 2011). When PSC was low, bullying and harassment affected engagement whereby high levels of bullying and harassment were related to low levels of engagement. At high levels of PSC the relationship disappeared.

A German study of 50 service car dealer employees, and some 300 interactions with clients, investigated whether higher levels of PSC within the dealerships was able to protect employees from the negative consequences of interactions with difficult customers (Zimmerman, Haun, Dormann, & Dollard, 2009). PSC was assessed prior to customer interactions. Employees rated PSC, and customer behaviour, as well as their own emotional reactions. They found that employees' negative affect was higher directly after a negative interaction with a customer. Further, a significant interaction was found between PSC and customer behaviour in predicting negative affectivity. Under conditions of low PSC, there was a positive relationship between negative customer behaviour and employee negative affectivity. Under conditions of high PSC, the relationship reduced. The study underscores the importance for organisations to improve PSC to protect employee psychological well-being.

In summary, PSC can act to moderate the relationship between psychosocial risk factors with employee health and productivity outcomes.

PSC as a target for intervention

PSC theory and the empirical evidence highlights the dual functionality of PSC. Primarily it can act to prevent work stress through job design; secondarily it can prevent the adverse impact of stressors. Based on PSC theory we propose that the most efficient organisational intervention target to reduce stress and increase work productivity will be to build PSC. Primary interventions are generally concerned with strategies aimed at the organisational level such as policy and procedure. Secondary interventions are aimed more at the job design aspects including levels of demands and resources. Tertiary interventions focus on the individual and may involve enhancing coping skills to reduce the effects of the psychosocial risk factors (Murphy & Sauter, 2004). Taken together the evidence above suggests that PSC is an efficient target for primary prevention and secondary intervention (to reduce impact of hazards).

PSC measures provide information about what to change in an organisation at the primary level - to improve working conditions (such as management priority, communication or participation systems), and at the secondary level – to reduce the impact of psychosocial hazards.

Moreover there is evidence that the PSC starting conditions may determine the success of a stress intervention. Researchers have outlined a number of process and contextual issues influencing the developmental stage of an organisational stress intervention (Biron, Gatrell, & Cooper, 2010; Dollard & Karasek, 2010). In particular, organisational capacity and resource issues (financial, human, expertise, and skills) are crucial, as is the political will of stakeholders (Dollard & Karasek, 2010). In a participatory action work stress risk-assessment based intervention study, involving 18 different work groups in two Australian public sector agencies (education and community health services), researchers found strong support for the proposition that the starting condition, PSC assessed at a group level, predicts how successful the implementation of the intervention is. PSC was associated with the extent to which the intervention groups attended the capacity building sessions, the quality of the intervention, and the progress (quantity) of the intervention.

PSC and national health

To date research has found worker health effects due to PSC when it has been assessed at an individual level (Idris, Dollard, & Winefield, 2011), at a work unit level (Dollard & Bakker, 2010; Dollard, Tuckey, & Dormann, 2012) and at an organisational level (Law et al., 2011). Scholars have for some time investigated income inequality and absolute income as determinants of health differences between nations. Given the impact of psychosocial factors at work on worker health, it is reasonable to consider the possibility that national differences in workplace psychosocial conditions may be related to national differences in health. Emerging research links workplace psychosocial factors to national health differences between countries.

A European study considered a range of factors that might explain health differences between 24 different EU countries (Dollard & Nesar, in review). Factors considered were: workplace psychosocial risks, including stress, bullying and violence; psychosocial safety climate; union representation; corruption; income inequality; and absolute income. Importantly worker self-reported health was related to life expectancy at the national level. This initial evidence provides weight to the importance of worker health in national health accounting. Further, as expected PSC was related to psychosocial work conditions; high levels of PSC¹ were related to lower risk of bullying, violence and stress. Researchers found that results were consistent with a novel psychosocial pathway whereby union representation and psychosocial safety climate → worker self-reported health → life expectancy. This result was evident over and above the significant main effect of absolute income on life expectancy. This evidence adds to the multilevel nature of PSC and its national significance for worker health at a national level.

¹ PSC was assessed via interview with N = 28 649 OHS managers with the following questions; Does your establishment have a procedure to deal with work-related stress, bullying or harassment, and work-related violence? Have employees been consulted regarding measures to deal with psychosocial risks? Are employees encouraged to participate actively in the implementation and evaluation of the measures?.

Method

Participants

Data was collected between 2010 to 2011 from 3513 employed workers over the age of 18, randomly selected from the Australian states New South Wales (NSW)² ($N = 725$), Western Australia (WA) ($N = 804$), South Australia (SA) ($N = 1143$), the Australian Capital Territory (ACT) ($N = 255$), Tasmania ($N = 416$) and the Northern Territory (NT) ($N = 170$). This resulted in a total of 3483 participants from a wide range of occupations and industries. Demographic data shows the sample included 45.5 per cent males and 54.5 per cent females with 59.8 per cent working full-time.

Measures

The scales selected for the AWB tool were taken from internationally recognised and psychometrically validated measures to capture data on the following aspects:

- Psychosocial Safety Climate (PSC)
- Job demands - (work pressure, physical, emotional)
- Organisational Change
- Harassment and Bullying
- Work-Family Conflict (WFC)
- Job control - (skill discretion, decision authority, macro-decision latitude)
- Resources - (support supervisor social support, co-worker social support, justice, rewards)
- Mental Health - (emotional exhaustion, psychological distress, depression)
- Physical health - (general health)
- Work outcomes - (productivity, absenteeism), and
- Engagement - (vigour dedication absorption).

The AWB tool was developed from combining various well-known and internationally recognised psychometric measures. It includes the following measures:

Psychosocial Safety Climate

The PSC-12 (Hall, Dollard, & Coward, 2010) comprises four domains each with three items; (1) senior management commitment and involvement in relation to stress prevention practices; (2) management priority measures employee perceptions of how management values employee psychological health and safety in comparison to productivity goals; (3) organisational communication, encompasses processes for employees to provide feedback on psychological

² The NSW and WA data used in this report comes from a 2nd wave of data collection that occurred in 2010 which only included participants that were randomly selected for a 1st wave of data collection in the original 2009 sample. The 2010 sample was chosen due to the timeframe of the 2nd wave being closer to the date that data was collected from the other four states and to reduce differences that could occur due to external factors such as the global financial crisis.

wellbeing; and (4) organisational participation, which relates to consultation regarding psychological health and safety issues with employees' unions and Health and Safety Representatives. Responses were made on a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Scores for each of the 12 items from all subscales are combined to provide the overall score ranging from a minimum 12 to maximum score of 60.

Job Demands

Job Demands

Job Demands were measured with the Job Content Questionnaire (JCQ 2.0) (Job Content Questionnaire Centre, 2012) which includes the following subscales; physical demands (six items), work pressure (five items), and emotional demands (four items). Self-report data was recoded on reverse scored items to reflect the 4-point Likert scale from 1 (*strongly disagree*) to 4 (*strongly agree*).

Organisational Change

The JCQ 2.0 was also used to measure organisational change. Five items were included, rated on the same 4-point Likert scale, asking participants to report the extent to which the given statement reflects their experiences at work. For example, *'In your company/organisation, there have been changes such as restructuring, downsizing, and layoffs that have significantly affected your job'*.

Organisational Harassment

A seven item scale employed by Richman, Flaherty and Rospenda (1996) was used to measure organisational harassment in the present study. Participants were asked to respond with the frequency that they experienced a variety of harassment situations in their workplace, from 1 (*very rarely/ never*) to 5 (*very often/ always*).

Bullying

The definition of bullying was clear for the present study as individual explanations of the term have differed in existing research. The following was provided for the participant: "Bullying is a problem at some work-places and for some workers. To label something, as bullying, the offensive behaviour has to occur repeatedly over a period of time, and the person confronted has to experience difficulties defending him or herself. The behaviour is not bullying if two parties of approximate equal "strength" are in conflict or the incident is an isolated event" (Lindström et al., 2000). Further, the bullying had to take place at least once a week for at least half a year or more (Leymann, 1993; Zapf & Gross, 2001). Thus, the following three questions were asked; *'Have you been subjected to bullying at the workplace during the last 6 months?'* (answer *yes* or *no*); *'How often were you exposed to these bullying behaviours overall?'* (5-point scale from 0 (*never*) to 4 (*daily*)). and *'How long were you exposed to these bullying behaviours overall?'* (5-point scale from 1: *less than one month* to 5: *more than 2 years*).

Work-Family Conflict

Work-Family Conflict was measured by asking participants about how work affected their home lives. Five items measuring time and strain-based conflict from Netemeyer, Boles and McMurrian's (1996) work-family conflict scale were selected for use in the present study. An example of the former includes *'My job produces strain that makes it difficult to fulfil family duties'*, while the later included *'The amount of time my job takes up makes it difficult to fulfil my family responsibilities'*. Responses to the items were made on a 7-point Likert scale from 1 (*strongly disagree*) to 7 (*strongly agree*).

Working hours

Working hours was measured in this study using a single item which asked participants to report how many hours they worked in the last seven days.

Job Resources

Job Control

Scales from the JCQ 2.0 were also used to measure the following three job control constructs; skill discretion (6 items, e.g. *'I have an opportunity to develop my own special abilities'*); decision authority (4 items, e.g. *'My job allows me to make decisions on my own'*); and macro-decision latitude (3 items, e.g. *'In my company/organisation, I have significant influence over decisions made by my work team or department'*). Likert response format was used for all items, with responses ranging from 1 (*strongly disagree*) to 4 (*strongly agree*).

Social Support

Measures were taken from the JCQ 2.0 to measure both supervisor social support (3-item scale, e.g. *'My supervisor/manager is helpful in getting the job done'*), and co-worker social support (3-item scale, e.g. *'I am treated with respect by my co-workers'*). Responses ranged from 1 (*strongly disagree*) to 4 (*strongly agree*), plus an alternate option to complete if the participant did not have a supervisor or co-workers.

Organisational Justice

The JCQ 2.0 was again used to measure organisational procedural justice using a total of four items, scored on a 4-point Likert scale, ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). An example item from this scale includes: *'In my company/ organisation, procedures are designed to provide opportunities to appeal or challenge a decision'*.

Organisational Rewards

The Effort-Reward Imbalance scale (ERI; Siegrist, 1996) was sourced to measure organisational rewards. Four specific items were selected for use in the present study taken from the esteem reward component (1 item), the job promotion reward component (2 items), and the job security

reward component (1 item). Responses were made on a 4-point Likert scale to be consistent with above measures 1 (*strongly disagree*) to 4 (*strongly agree*).

Health Outcomes

Emotional Exhaustion

Emotional exhaustion was measured through a selection of five items from the Maslach Burnout Inventory (MBI; Schaufeli, Leiter, Maslach, & Jackson, 1996). Items such as *'I feel tired when I get up in the morning and have to face another day on the job'* were answered on a 7-point scale, ranging from 1 (*never*) to 7 (*every day*).

Psychological Distress

All 10 items from the Kessler 10 (K10; Kessler & Mroczek, 1994) were included to measure psychological distress, which investigates the degree of anxiety and depressive symptoms that the participant has experienced over the last month. For example, *'In the past four weeks, about how often did you feel everything was an effort?'* Responses were scored on a 5-point scale, from 1 (*none of the time*) to 5 (*all of the time*).

Recovery

Five items from the inter-shift recovery section of the Occupational Fatigue Exhaustion Recovery Scale (OFER15; Winwood, Winefield, Dawson, & Lushington, 2005) were employed to measure the participants' ability to recover between work periods. Items such as *'I never have enough time between work periods to recover my energy completely'* were answered on a 7-point Likert scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

Depression

Depression was measured using all items from the Patient Health Questionnaire (PHQ-9; Spitzer, Kroenke, & Williams, 1999). These nine items apply to the nine criteria for clinical diagnoses of depressive episodes in the DSM-IV, for example *'During the last month, how often were you bothered by little interest or pleasure in doing things?'* These items are all scored on a 4-point Likert scale 1 (*not at all*) to 4 (*nearly every day*).

General Physical Health

Nine items from the University of Queensland Work Outcomes Research Cost-Benefit (WORC) project (QIDS-SR, Rush et al., 2003; Section A – Health) were used to measure the participant's current physical health. Items included ailments such as musculoskeletal problems experienced in the last week, as measured on a 4-point scale, 1 (*not at all/never*) to 4 (*a lot*). For example, *'During the last 7 days, how much were you bothered by headaches?'* In addition, one global item (the SF1) was included to measure general health from the MOS Short Form 36 (SF36; Ware & Sherbourne, 1992). The SF1 asks *'In general, would you say your health is...?'*, to which individuals assess their

own physical and mental health according to their personal values, responding on a 5-point scale from 1 (*poor*) to 5 (*excellent*).

Motivational Outcomes

Absenteeism

Two items from the World Health Organisation Work Performance Questionnaire (HPQ; Kessler et al., 2003) were used to measure absenteeism. In specific, sickness absence was the measure used for results in this report, which refers to the rate of absenteeism based solely on illness (psychological and physical). The items were 'How many hours does your employer expect you to work in a typical 7-day week?' and 'In the past 4 weeks (28 days), how many days did you miss an entire work day because of problems with your physical or mental health?' A ratio was created between the two items to create a percentage absence due to sickness over expected monthly hours of work, adjusting for the possibility of negative scores due to working longer than expected hours.

Presenteeism

One item that investigates job performance from the World Health Organisation Work Performance Questionnaire (HPQ; Kessler et al., 2003) was used to measure presenteeism. This was 'how would you rate your overall job performance on the days you worked during the past 4 weeks?' It was answered on a scale from 0 to 10, where 0 is the worst performance and 10 is the performance of a top worker. The reported number was multiplied by 10 to produce a percentage of presenteeism.

Engagement

Nine items from the Utrecht Work Engagement Scale – Shortened Version (UWES-9; Schaufeli, Bakker, & Salanova, 2006) were employed to measure work engagement. The three subscales each consist of three items to measure a different facet of engagement; vigour, e.g. '*At my work, I feel bursting with energy*'; dedication, e.g. '*My job inspires me*'; and absorption, e.g. '*I get carried away when I am working*'. These items were all measured on a 7-point scale which ranged from 1 (*never*) to 7 (*every day*).

Procedure

Computer assisted telephone interviewing (CATI) system was used to contact participants identified via the Electronic White Pages. Participants were sent an introductory letter providing details of the study and advised that they will be contacted. The data were weighted based on factors including age, sex, number of phone numbers in the white pages and number of members of the household, to establish representativeness of the sample to the wider Australian population. The analysis utilised a cross-sectional design to establish correlational relationships in order to provide implications for policy development.

Statistical analysis

The main statistical analyses utilised the Statistical Package for the Social Sciences (SPSS) program. Correlations were conducted to measure of the degree of linear relationship between two variables. Regression analyses were also used to model the relationship between dependent variables such as health outcomes and one or more explanatory variables denoted such as demands or resources. Structural equation modelling (SEM) was conducted using AMOS in order to establish the model presented in Figure 1.

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Results and discussion

Demographic data for AWB population

See Table 1 for details relating to age, gender and other demographic information for the sample population.

Table 1. Demographics of participants by state (not weighted)

	Individual States						
	Australia (N = 3513)	NSW (N = 725)	WA (N = 804)	SA (N = 1143)	ACT (N = 255)	TAS (N = 416)	NT (N = 170)
Age (years)	M 46.62 SD 11.85	M 47.53 SD 11.29	M 47.92 SD 11.49	M 46.09 SD 12.36	M 45.27 SD 12.46	M 45.85 SD 11.58	M 44.15 SD 11.20
	Percentage (%) of sample						
Gender							
Men	45.5	43.6	47.3	44.5	49.8	45.7	44.7
Women	54.5	56.4	52.7	55.5	50.2	54.3	55.3
Indigenous Australian (ATSI)							
No / Not stated	98.4	98.2	99.2	99.6	99.0	97.3	90.8
Aboriginal/Torres Strait Islander	1.6	1.8	0.8	0.4	1.0	2.7	9.2
Marital Status							
Married	60.5	61.2	63.1	59.1	59.2	63.7	50.0
Living with partner	9.5	8.8	8.8	9.8	8.2	8.9	17.6
Separated	3.6	4.0	2.5	3.3	5.9	3.4	7.1
Divorced	9.5	9.8	9.6	10.2	8.2	8.2	7.1
Widowed	2.0	2.9	2.4	1.8	1.6	1.0	1.8
Never married / Refused	14.9	13.2	13.7	15.8	16.9	14.9	16.5
Education level							
Bachelor degree or higher	34.6	37.1	36.8	27.7	50.2	33.9	38.8
Below bachelor level	65.4	62.9	63.2	72.3	49.8	66.1	61.2

Table 1 shows the sample demographics obtained in the AWB. The sample appears to be an adequate representation of the population as the representation is consistent with norms reported by the Australian Bureau of Statistics (ABS, 2010). Nevertheless, the sample for the present study displays a 21 per cent higher rate of permanent employment with paid leave entitlements over the 62 per cent indicated by the ABS (including permanent full and part time employees). This may be because the ABS data consists of participants from the working population 15 years and older, and is thus more likely to include younger members with casual or temporary employment than the AWB which has a cut-off at 18 years.

On the other hand, the AWB sample displays a lower rate of full-time employment across all states (60 per cent) in comparison to the ABS estimate of 70 per cent. This may be due to the full-time but

non-permanent workers included in other more relevant groupings in the AWB data, for example, people working on fixed term contracts or self-employed but actually working at a full-time capacity. Participants in professional work appear to be marginally overrepresented in the sample, with slightly lower rates across the other main duties at work (manager/administrators, tradespersons, labourers, and so on). Aside from these minor differences, overall the sample obtained in the present study appears a close match to the population demographics reported by the ABS.

Intercorrelations between variables

Table 2 shows all of the Pearson correlations between the variables. With such a large sample correlations can be expected between all measures. To extract better meaning from the results it is important to consider effect size. Cohen (1992) rates a correlation coefficient r , to be weak when $r = .20$, moderate when $r = .30$, and strong when $r = .50$.

In relation to the demographic variables, age showed a moderate correlation with income, older workers reporting significantly higher income than younger workers. Older workers reported higher emotional demands, higher organisational change, higher skill discretion, higher engagement and higher presenteeism.

In relation to gender, men reported significantly more income, and worked longer hours than women. Women had significantly less decision authority, and macro-decision latitude, and more physical health problems.

Workers reporting higher income levels report significantly longer working hours, and higher levels of control (skill discretion, and decision authority), but higher levels of work-family conflict, and less opportunity for recovery.

In relation to work hours, those reporting working longer hours were more likely to be men, and also report more work pressure, more work-family conflict, more exhaustion, but more control (decision authority and skill discretion), less sickness absence, and also higher levels of engagement, than those reporting fewer work hours in the past seven days.

Psychosocial safety climate as expected was negatively related to all of the demand measures, showing several moderate relationships. In particular high PSC was associated with low work pressure, low emotional demands, less bullying and organisational change, less work-family conflict, and less harassment (strongest effect). PSC was positively related to the resource measures, showing a strong relationship with supervisor support, macro-decision latitude, organisational justice, and organisational rewards. Psychosocial safety climate was negatively related to all adverse health measures, showing a moderate negative relationship to emotional exhaustion. It was positively related to presenteeism, negatively related to sickness absence, and was negatively related to stress claims. PSC showed a moderate positive relationship with engagement.

All of the demand measures were positively related to each other, and as expected showed negative relationships to resources; as demands increased, resources decreased. In general, consistent with the health erosion hypothesis, the demand measures were positively related to psychological health

problems (psychological distress, emotional exhaustion, and depression), with nearly 50 per cent of the relationships of at least moderate size. Moderate-strong relationships were found between emotional demands and work pressure, both with emotional exhaustion, and a strong relationship was found between work-family conflict and exhaustion. As expected, work demands in general showed fairly weak relationships to work outcome measures. Harassment showed the strongest relation to stress claims.

Resources in general showed significant but weak relationships with health problems. Organisational rewards and organisational justice were moderately related to exhaustion; higher levels of these resources were related to lower levels of exhaustion. Organisational rewards were also moderately negatively linked to psychological distress. Consistent with the motivational hypothesis of the JD-R model, nearly all of the resources were moderately-strongly related to engagement.

The health outcome measures were all related to each other. As expected they showed a negative relationship to engagement; higher level of health problems were associated with lower level of engagement. These relationships were moderate for all of the psychological health measures.

In relation to the work outcomes, engagement was most strongly related to PSC, resources, and psychological health measures (all moderate effects). Sickness absence was best predicted by those with lower hours worked, psychological distress, depression, and low engagement, all showing weak effects. Low presenteeism was associated with psychological distress, and depression; high presenteeism was associated with high engagement (moderate effect). Finally stress leave was negatively related to PSC, and positively related to harassment, exhaustion, and depression (all weak effects).

Table 2 Pearson intercorrelations of variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Demographics																											
1. Age	1																										
2. Gender	-.05*	1																									
3. Income	.34†	-.36†	1																								
4. Hours worked	.12†	-.30†	.46†	1																							
Psychosocial Safety Climate																											
5. PSC	-.07†	-.01	-.05‡	-.05‡	1																						
Job Demands																											
6. Work Pressure	.07†	.07†	.22†	.21†	-.25†	1																					
7. Emotional Demands	.16†	.11†	.15†	.11†	-.25†	.49†	1																				
8. Physical Demands	-.10†	-.10†	-.14†	.10†	-.11†	.19†	.13†	1																			
9. Organisational Change	.16†	-.03	.17†	.04*	-.22†	.33†	.25†	.04*	1																		
10. Bullying	.00	.08†	.04*	.03	-.21†	.17†	.14†	.08†	.13†	1																	
11. Harassment	.04*	-.02	.05‡	.06†	-.34†	.25†	.29†	.19†	.23†	.35†	1																
12. Work-family Conflict	.07†	-.09†	.28†	.31†	-.26†	.42†	.43†	.20†	.20†	.14†	.31†	1															
Job Resources																											
13. Supervisor Support	-.08†	.03	-.02	-.05‡	.52†	-.22†	-.17†	-.25†	-.18†	-.20†	-.27†	-.15†	1														
14. Co-worker Support	-.07†	.08†	-.04*	-.03	.25†	-.06‡	-.02	-.19†	-.09†	-.16†	-.15†	-.04*	.47†	1													
15. Skill Discretion	.15†	-.05‡	.34†	.18†	.19†	.16	.20†	-.13†	-.06‡	-.01	-.01	.15†	.23†	.25†	1												
16. Decision Authority	.08†	-.12†	.24†	.19†	.26†	-.03	-.02	-.16†	-.14†	-.11†	-.10†	.01	.29†	.25†	.49†	1											
17. Macro-decision Latitude	-.05‡	-.13†	.08†	.11†	.53†	-.14†	-.13†	-.07†	-.18†	-.18†	-.20†	-.07†	.35†	.16†	.26†	.46†	1										
18. Organisational Justice	-.04*	-.06‡	-.02	-.02	.63†	-.20†	-.16†	-.06‡	-.20†	-.13†	-.27†	-.19†	.39†	.20†	.18†	.28†	.56†	1									
19. Organisational Rewards	-.04*	-.09†	.10‡	.00	.50†	-.23†	-.20†	-.20†	-.23†	-.23†	-.29†	-.18†	.47†	.31†	.24†	.34†	.44†	.49†	1								
Health Problems																											
20. Psychological Distress	-.06†	.05‡	-.02	.04*	-.23†	.25†	.29†	.14†	.13†	.20†	.24†	.29†	-.18†	-.08†	-.04*	-.15†	-.17†	-.19†	-.26†	1							
21. Exhaustion	-.09†	.03	.08†	.14†	-.33†	.42†	.41†	.24†	.19†	.13†	.27†	.50†	-.22†	-.10†	-.04*	-.16†	-.23†	-.28†	-.31†	.51†	1						
22. Recovery	-.04*	-.02	-.18†	-.21†	.30†	-.41†	-.42†	-.22†	-.20†	-.18†	-.28†	-.58†	-.18†	.13†	-.01	.11†	.18†	.27†	.30†	-.38†	-.62†	1					
23. Depression	-.04*	.08†	-.03	.04*	-.23†	.23†	.28†	.11†	.13†	.15†	.23†	.32†	-.13†	-.05*	-.06†	-.15†	-.19†	-.20†	-.24†	.76†	.51†	-.42†	1				
24. Physical Health	.05†	.13†	-.07†	-.04*	-.16†	.18†	.24†	.17†	.09†	.13†	.20†	.22†	-.09†	-.03	-.05‡	-.14†	-.19†	-.17†	-.21†	.48†	.37†	-.33†	.49†	1			
Work Outcomes																											
25. Engagement	.12†	.01	.11†	.13†	.34†	-.00	-.01	-.08†	-.12†	-.05‡	-.12†	-.07†	.28†	.15†	.39†	.33†	.28†	.30†	.31†	-.28†	-.27†	.17†	-.29†	-.18†	.1		
26. Absence	-.02	.05‡	-.05‡	-.22†	-.07†	.01	.10†	.01	.08†	.08†	.09†	.03	-.03	-.03	-.07†	-.10†	-.06†	-.02	-.07†	.12†	.08†	-.10†	.24†	.21†	-.12†	.1	
27. Presenteeism	.14†	.07†	-.03	.06†	.13†	.06‡	-.06‡	.05‡	-.00	-.02	-.08†	-.03	.07†	.04*	.07†	.10†	.10†	.12†	.08†	-.22†	-.17†	.09†	-.22†	-.13†	.26†	-.11†	1
28. Stress Claim	-.07	.01	.02	.06	-.17†	.10‡	.13‡	.05	.07	.09*	.17†	.12†	-.11‡	-.15†	-.02	-.06	-.07	-.15†	-.16†	.13‡	.21†	-.13†	.18†	.06	-.15†	-.01	-.11‡

Note. * = $p < .05$; ‡ = $p < .01$; † = $p < .001$; Gender, 1 = male, 2 = female; Stress claim, 0 = no, 2 = yes; high scores equal higher levels of the variable.

Testing the AWB model

Analysis strategy

Next we considered all of the measures simultaneously and tested the theoretical framework as outlined in Figure 1, including the underlying constructs PSC, demands, resources, health and motivational outcomes (N = 3152).

First we considered all of the factors that underpin these constructs. Using structural equation modelling we found that all of the four subscales of PSC loaded well on the underlying measure psychosocial safety climate, as indicated by Beta values greater than .70 (see Figure 2). For the demand measure, preliminary analysis suggested that the demand scales measured different kinds of demands. Accordingly we created three demand measures: psychological demands comprised the work-family conflict, work pressure and emotional demands measures; bullying and harassment loaded together and physical demands was considered separately. In a complex model with many different measures it is likely that some can not be modelled because they do not load well on the main constructs. This was the case with organisational change, and work hours, and these were removed from the model.

In relation to resources, all of the resource scales loaded on the resource factor. The fit of the model improved when skill discretion was removed. In relation to health, two factors were better than one: psychological health problems were indicated by depression and distress; exhaustion was represented by emotional exhaustion and poor recovery. For the work outcome measure, engagement, intention to leave, and job satisfaction all loaded on this factor. This model reflects Hypothesis 1 -3 outlined above.

To test the model we used structural equation modelling using AMOS (Arbuckle, 2005). We controlled for age, gender and income. For additional details of the results please refer to Appendix C.

Results

Results showed that the model was a good fit to the data. Figure 2 shows all of the effects.

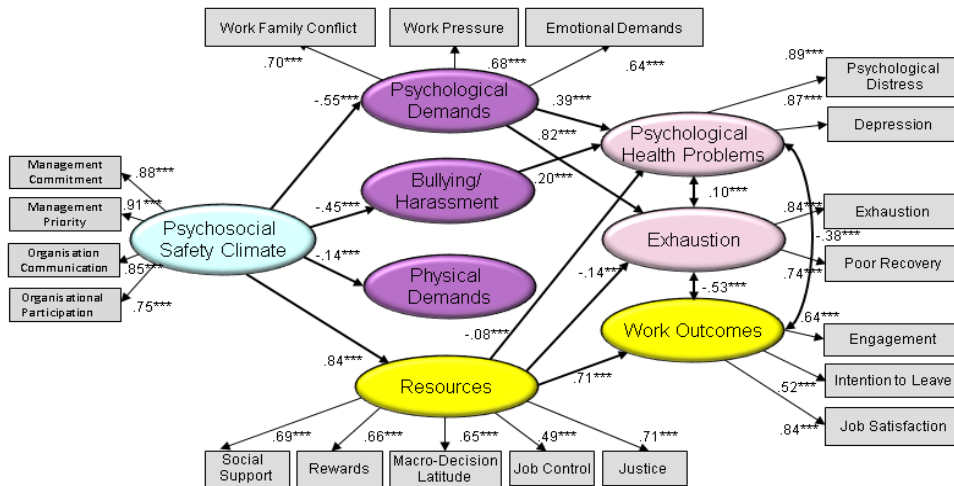


Figure 2. Full Study Model

The final simplified model is shown in Figure 3.

As shown in Table 2, the fit indices of the study model M1 ranged from acceptable to good on the fit indices; although the chi-square test was significant this is not unusual with a large sample size. Taken together the fit indices suggest that we can accept the proposed model. For additional details of the analysis refer to Appendix C.

As shown in Figure 2, PSC is significantly related to demands (all negative relationships), and to resources (positive relationship). For example the relationship between PSC and psychological demands is Beta = -.55, $p < .001$.

The most important demands as determined by their relationship to psychological health problems and exhaustion are:

- Work-family conflict
- Work pressure
- Emotional demands, and
- Bullying and harassment.

The most important resources as determined by their relationship to psychological health, exhaustion and engagement are:

- Justice
- Social Support
- Organisational rewards, and
- Macro-decision latitude.

PSC as a predictor of job demands and health outcomes

Returning to the importance of PSC we formally tested the hypotheses to consider the indirect (mediated) effects of PSC on health and work outcomes. In support of Hypothesis 1 that PSC is indirectly negatively related to psychological health problems and exhaustion through its negative relationship with job demands (H1) we found a significant indirect relationship between PSC and psychological health problems, and exhaustion. In other words PSC is significantly indirectly related to psychological health problems (Beta = -.30, $p < .01$) and exhaustion (Beta = -.44, $p < .01$), via its effect on job demands.

In support of Hypothesis 3 that PSC is indirectly negatively related to psychological health problems and exhaustion through its positive relationship with job resources, we found a significant indirect relationship between PSC and psychological health problems (Beta = -.12, $p < .01$), and exhaustion (Beta = -.17, $p < .01$). As expected these relationships are not as strong as when demands are the mediator.

Table 4 reports the total indirect effects of PSC via both demands and resources, including the 90 per cent confidence interval using a bias corrected percentile method. The standardised indirect (mediated) effect of PSC on psychological health problems is -.30. In other words, due to the indirect (mediated) effect of PSC on depression and distress, when PSC goes up by 1 standard deviation, depression and distress goes down by 0.30 standard deviations; exhaustion goes down by .44 standard deviations. Another way of considering this is a 10% increase in PSC would lead to a 3% decrease in depression and distress.

Table 4. Indirect (Mediated) Effects of PSC on Outcomes

	Beta	p	90% Confidence Interval	
			Lower Bound	Upper Bound
PSC → Psychological health problems	-.30	.01	-.33	-.27
PSC → Exhaustion	-.44	.01	-.47	-.41
PSC → Work Outcomes	.59	.01	.57	.61

In support of Hypothesis 2, we found that PSC has a positive effect on work engagement through its positive relationship with job resources. As shown in Table 3, the standardised indirect (mediated) effect of PSC on work outcomes is .59. In other words, due to the indirect (mediated) effect of PSC on work outcomes, when PSC goes up by 1 standard deviation, work outcomes goes up by 0.59 standard deviations. A ten per cent increase in PSC would lead to a 6% increase in engagement.

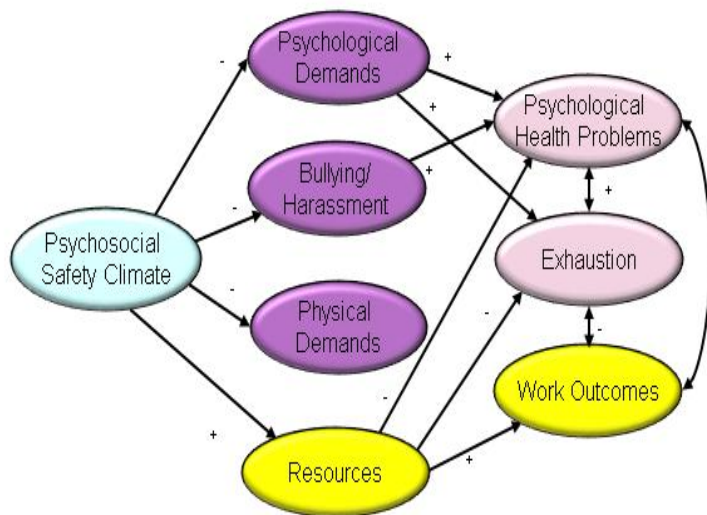


Figure 3. Final AWB Model

Overall the model explained 30 per cent of the variance in psychological health problems. In other words, it is estimated that the predictors of psychological health problems explain 30 per cent of the variability in participant scores. We found that the model explained 75 per cent of the variance in exhaustion, and 50 per cent of the variance in work outcomes.

Results show that a 10 per cent increase in PSC within organisations would lead to a 4 per cent decrease in demands, a 4.5 per cent decrease in bullying, an 8 per cent increase in resources. These results strongly suggest that PSC is theoretically a logical upstream target for injury prevention as it is an antecedent for demands and resources *as well as* health and productivity outcomes.

This model is based on cross-sectional data, so causal conclusions cannot be drawn about the direction of the relationships. However the results are consistent with our theoretical framework, as well as empirical evidence drawn from longitudinal studies that support PSC as the genesis of work conditions (Dollard & Bakker, 2010; Dollard et al., 2012) and stress reactions (Dollard, 2012).

Taken together the results indicate that the study model is a plausible representation of how PSC is associated with work conditions that in turn relate to health and work outcomes, in the Australian working population.

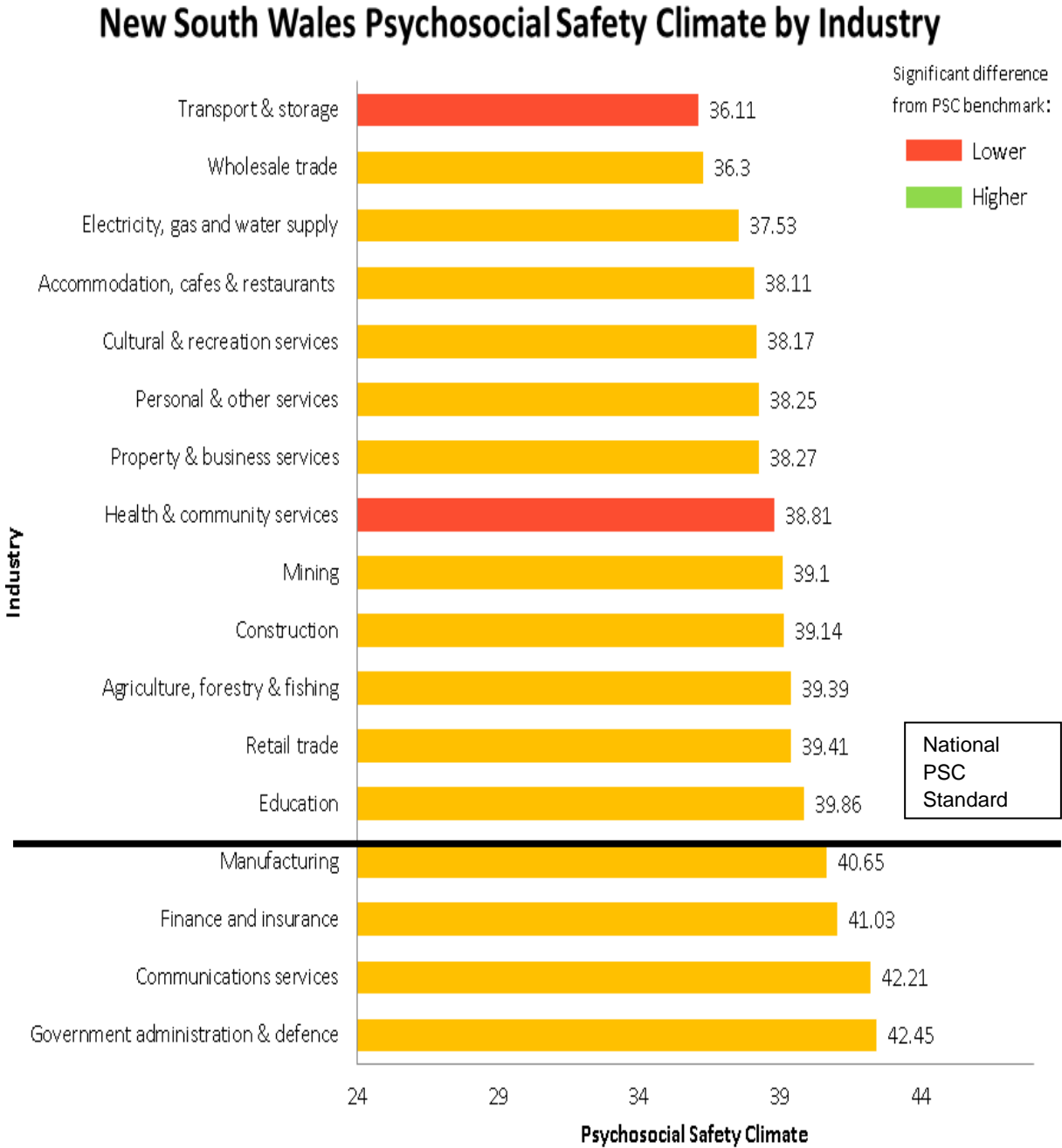
PSC by industry by state

Given its importance a state-level comparison of PSC was conducted, with results presented in Figures 4 through Figure 9. The mean 'acceptable' level of PSC was calculated from a national level analysis of the AWB data deriving an average value of PSC as rated by individuals with no levels of clinical depression (PSC for individuals with mild, moderate or higher clinical levels of depression were excluded). This yielded a value of 41.16 the national standard for acceptable psychosocial safety climate, which may be rounded to the nearest whole number, 41, for a national benchmark.

Significant differences from this value were calculated using the Mean (M), standard deviation (SD), and number (N) for each industry group in each state. Hence, highest and lowest scoring industries were not necessarily found to be significantly different from the national standard. Any industry with an N of less than 5 was excluded from the figures as to avoid misrepresenting the data due to small sample size in some industries tested. Significant differences from the national mean are flagged in red for statistically significantly poorer PSC, and green for statistically significantly better PSC.

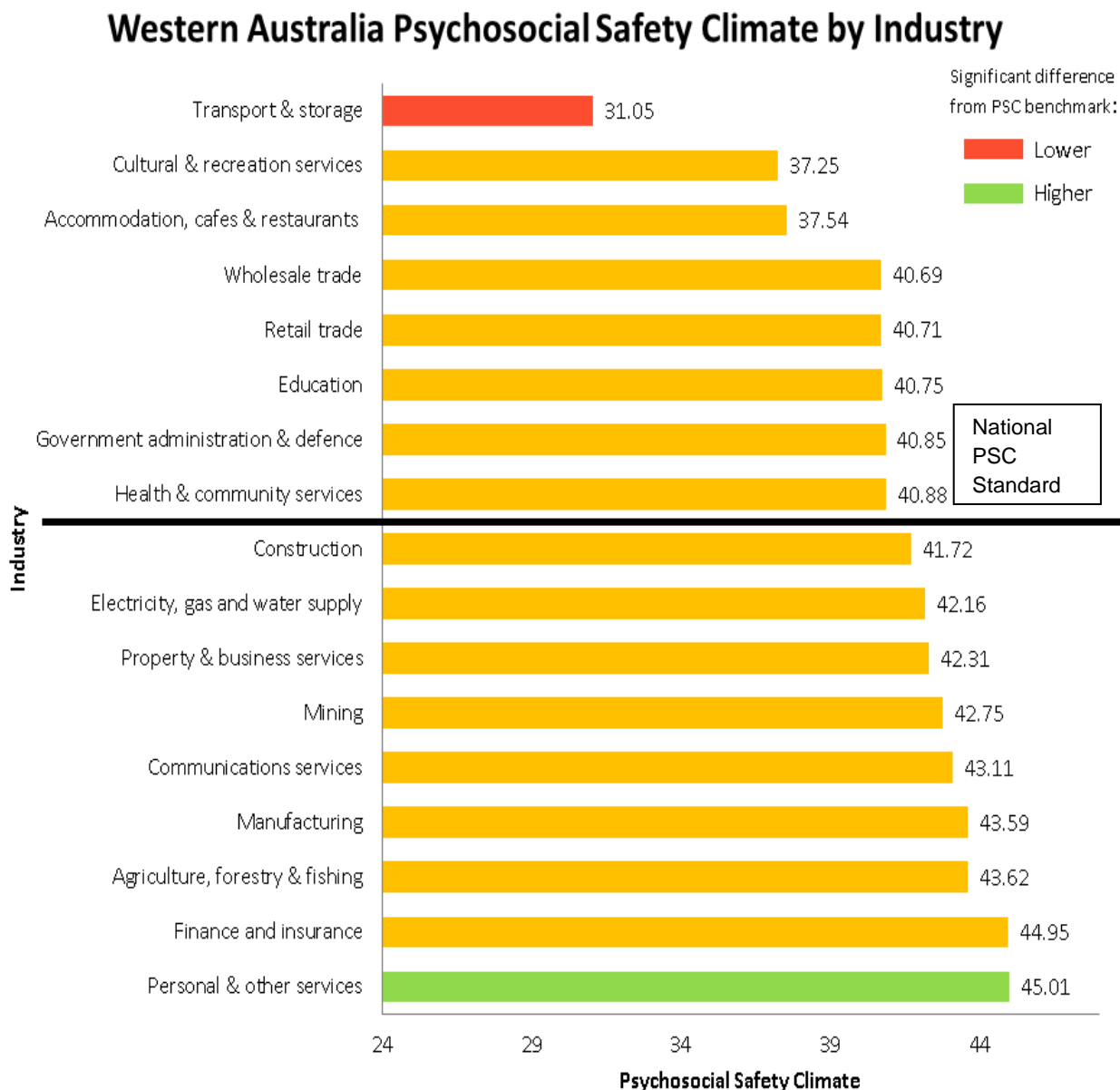
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Figure 4. Psychosocial Safety Climate in New South Wales



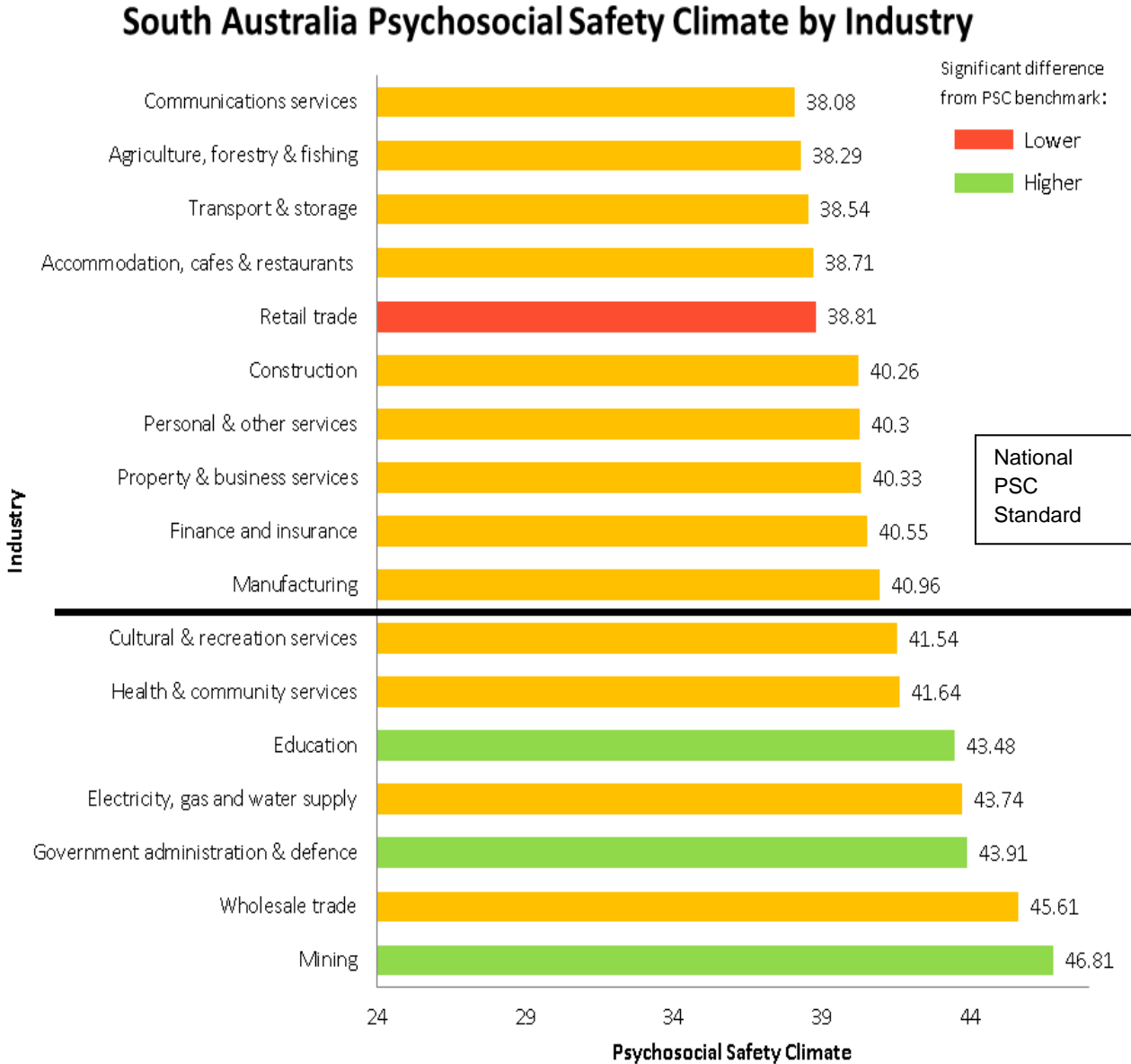
The above results indicate that nearly all of NSW industries fall below the national standard albeit showing a non-significant difference. However a particularly notable finding, evident in both Transport and storage, and Health and community services, is that PSC levels that are statistically significantly lower (flagged in red) than the national standard.

Figure 5. Psychosocial Safety Climate in Western Australia



For WA, industries were more evenly spread about the national standard. Transport and storage again reported significantly lower PSC than the national standard. However Personal and other services were on average significantly better (green bar) than the national standard.

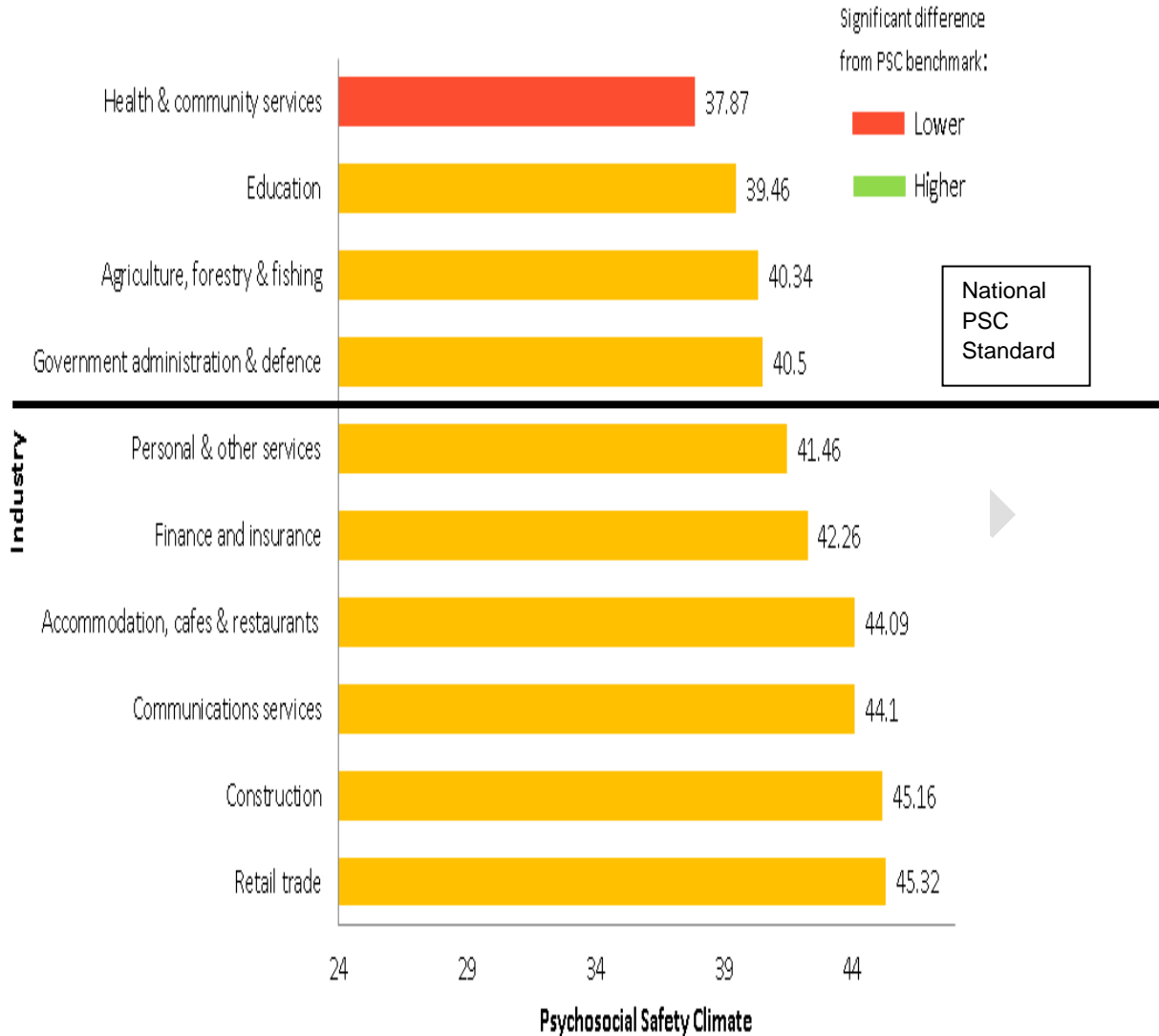
Figure 6. Psychosocial Safety Climate in South Australia



In SA retail trade scored significantly lower than the national standard where as Mining, Government, administration and defence along with Education displayed a PSC score significantly higher than the national average. It was noted that Mining in SA scored the highest PSC when compared at a national level.

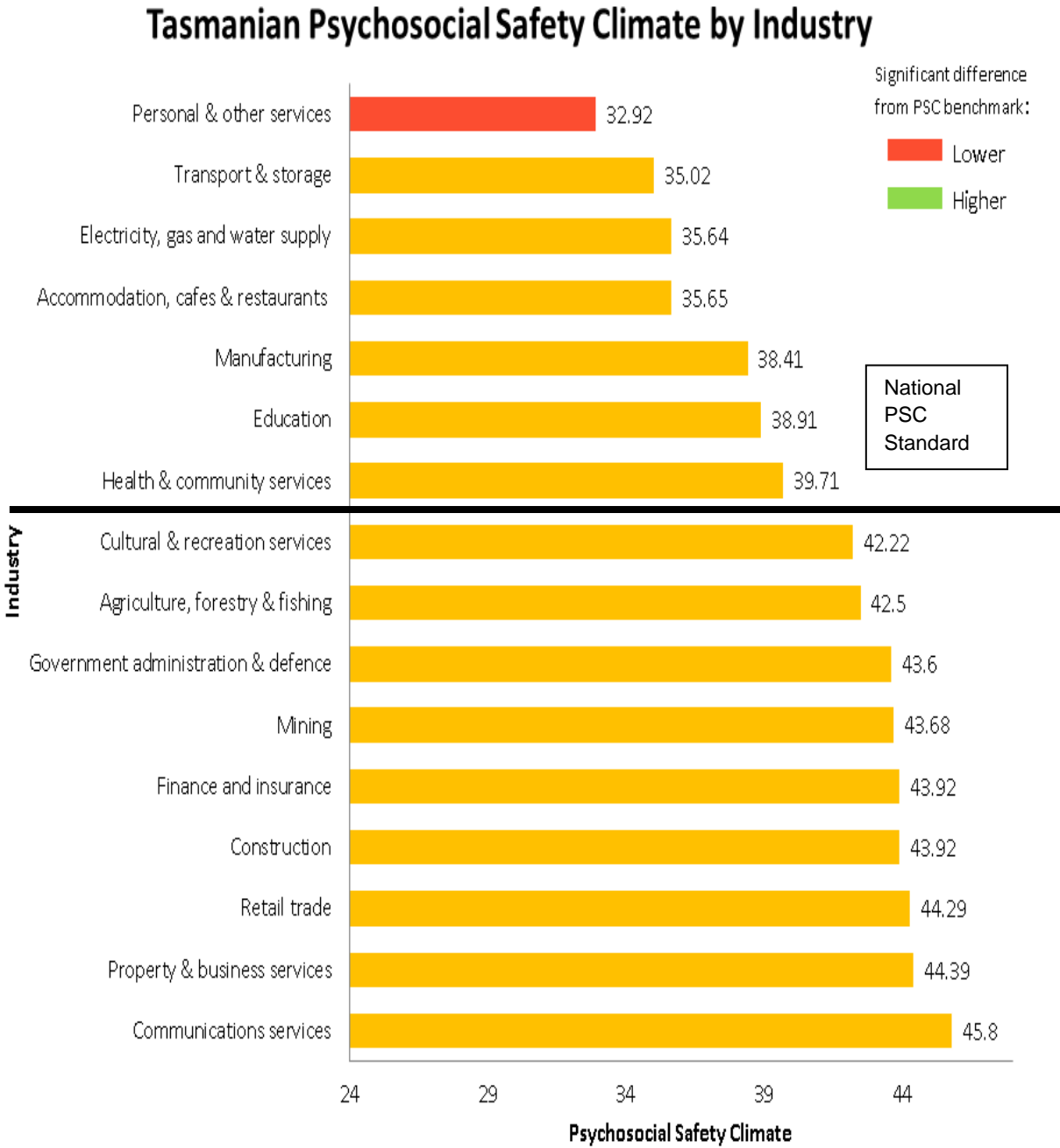
Figure 7. Psychosocial Safety Climate in Australian Capital Territory

Australian Capital Territory Psychosocial Safety Climate by Industry



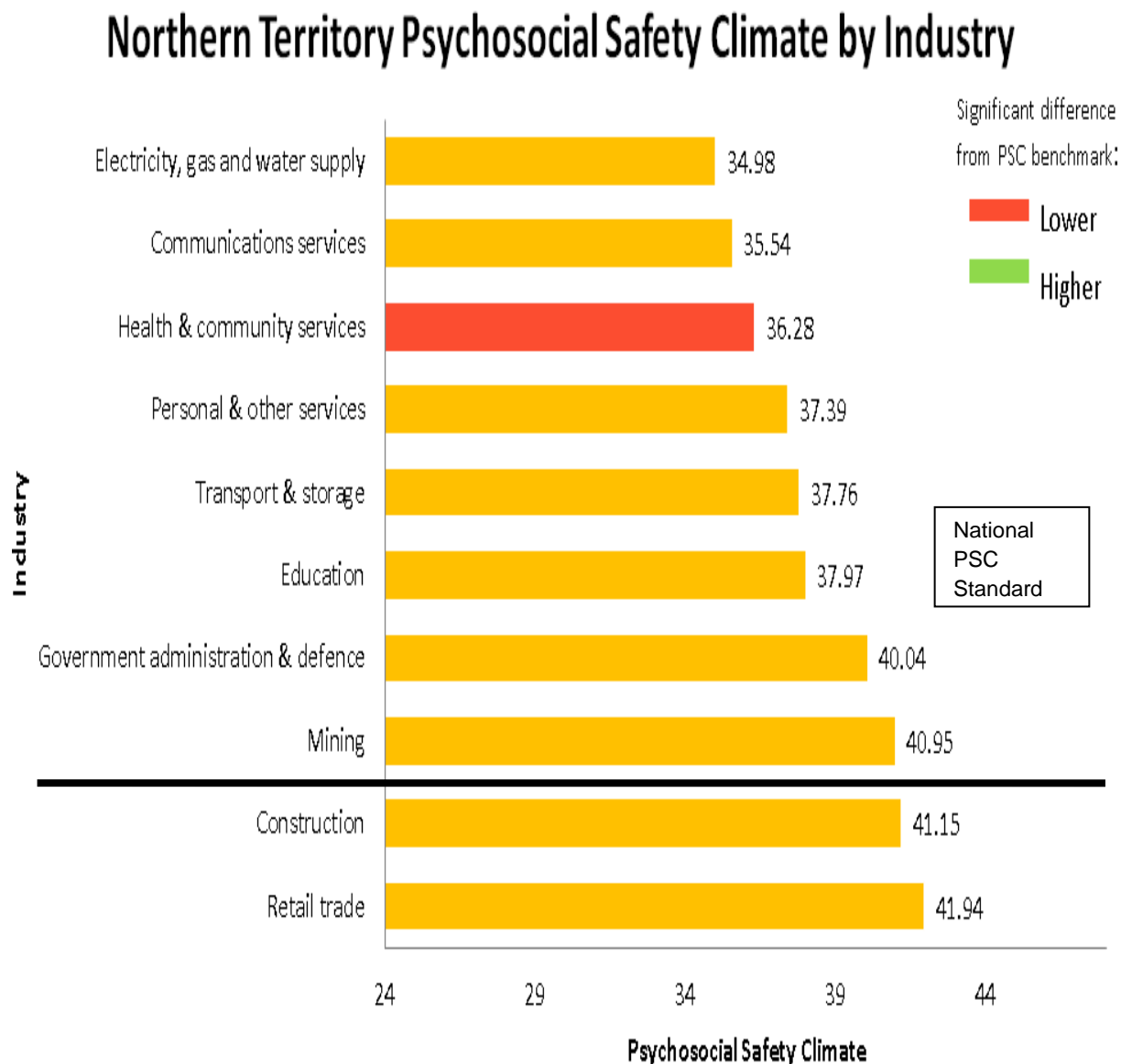
In the ACT, while Education, Agriculture, forestry and fishing as well as Government administration and defence all fell below the national standard, only Health and community services scored significantly lower than the national standard.

Figure 8. Psychosocial Safety Climate in Tasmania



For Tasmania although most industries scored above the national standard none were significantly higher. Personal and other services, scored significantly lower levels of PSC than the national standard.

Figure 9. Psychosocial Safety Climate in the Northern Territory



Last, in the NT almost all of the industry groups fell below the national standard, albeit as a non-significant difference. However, in particular Health and community services displays a significantly lower PSC level than the national standard.

High risk industries by demands, resources, and overall health

As psychosocial work conditions are often a function of job design and industry, it is likely that levels of psychosocial risks and hazards may fluctuate as a function of occupation and/or industry. By having an in-depth understanding of the unique characteristics of each industry type, researchers and organisational representatives will be better equipped to design tailored interventions to address psychosocial working conditions and to develop relevant best practice guidelines to maximise mental health outcomes for workers.

Previous research has indicated that the experience of mental health concerns in the workplace differs according to industry, occupation and/or employment level (Bultmann, Kant, van Amelsvoort, Van Den Brandt, & Kasl, 2001; Marchand, 2007; Neidhammer, Goldberg, Leclerc, Bugel, & David, 1998; Weiclaw, Agerbo, Mortensen, & Bonde, 2005). Caring, health care, manufacturing, wholesale trade and transportation industries have been identified as industries at higher risk of poorer mental health than the average working population, however unanimous support for which industries are the riskiest has not been demonstrated in the literature (Marchand, 2007; Weiclaw, et al., 2005).

Industries in the AWB were categorised according to the Australian and New Zealand Standard Industrial Classification (Castles & Cook, 1993): 17 broad industries were included in the survey. To identify industries at risk overall scores were generated by combining the z-scores of individual health measures (emotional exhaustion, psychological distress, depression, recovery, and physical health to provide a composite score.

The following industries had the poorest levels of overall health:

1. Electricity, gas and water supply
2. Manufacturing
3. Health and community services
4. Accommodation, cafés and restaurants, and
5. Retail trade.

The following industries had the highest levels of overall health:

1. Agriculture, forestry and fishing, and
2. Cultural and recreational services.

The three most *risky industries*, due to their overall levels of health being below average as well as less than ideal levels of demands (too high) and/or resources (too low):

1. Retail trade
2. Health and community services, and
3. Accommodation, cafes, restaurants.

Risky industries in the AWB account for approximately 30 per cent of all industries in the Australian population according to recent ABS (2010) statistics:

1. Health and social services employ 12 per cent
2. Retail trade, 11 per cent, and
3. Accommodation, cafes and restaurants, 7 per cent.

State-based graphs for industries at risk

Analysis of risk was conducted across all six states and territories, and further divided by industry. To identify industries at risk overall, scores were generated by combining the z-scores of individual measures to provide a composite score for each of job demands, job resources, and overall health. Job demands have been reverse coded so that high scores reflect lower levels of job demands, hence the key is relabelled to 'low demands'. This permits easy interpretation of the bar graphs as higher

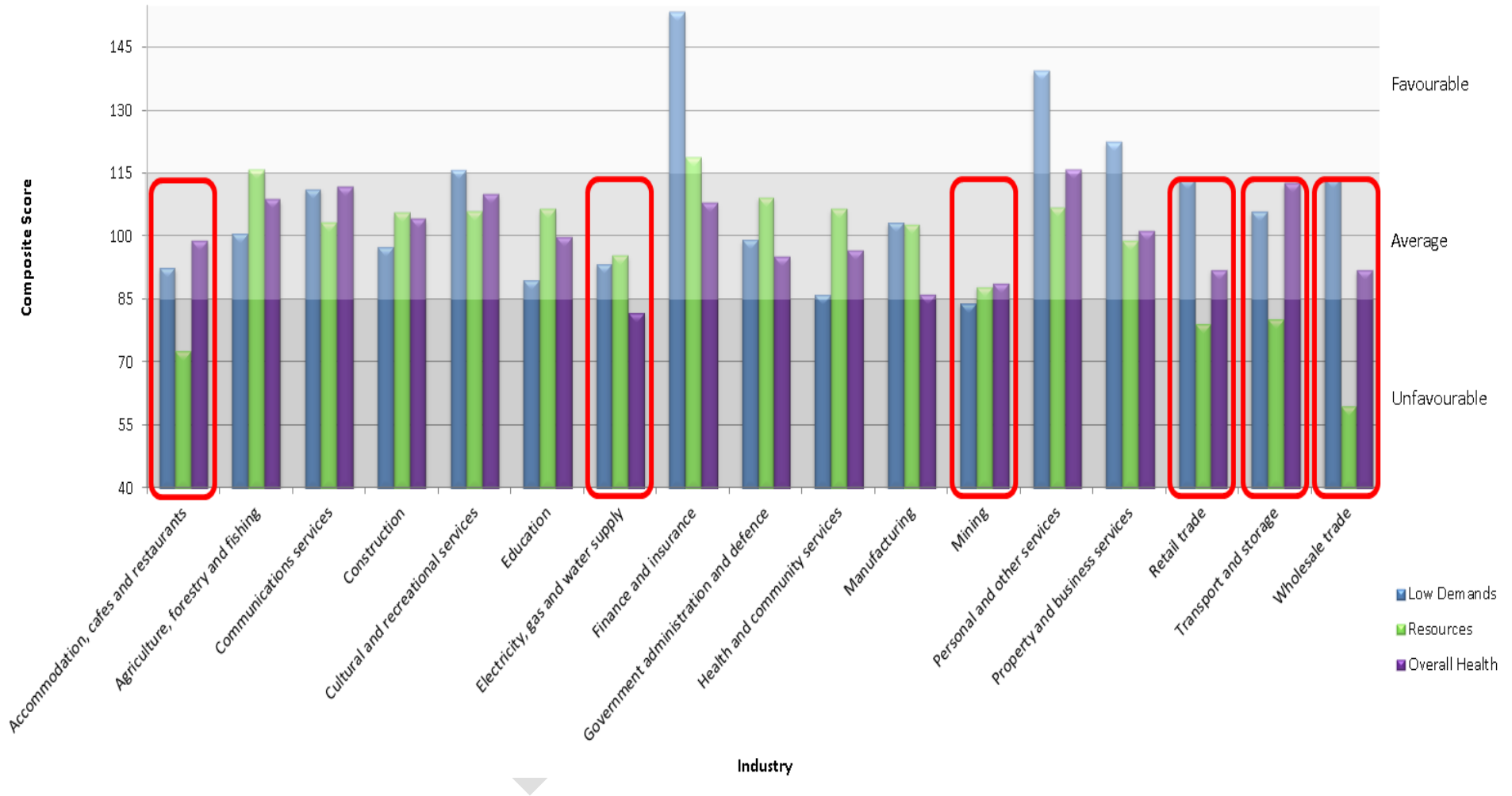
levels of each of the three measures indicates favourable working conditions. Job demands were computed using total z-scores for harassment, bullying, organisational change, and work-family conflict, as well as work pressure, physical, and emotional demands. Job resources were comprised of skill discretion, decision authority, organisational rewards, as well as both supervisor and co-worker social support. Overall health was derived from the five health outcome measures, namely emotional exhaustion, psychological distress, depression, recovery, and physical health.

The following graphs displays mean composite scores for job demands, job resources and overall health for all 17 industries by state. Favourable and unfavourable classifications have been marked on each graph based on a standardised bell curve used commonly in statistics (with 68% of the population lying within the average of one standard deviation above and below the mean). For ease of reference, all standardised scores have been set about a mean of 100, with a standard deviation of 15 above and below the mean. Any demand, resource or health score falling greater than a single standard deviation either side (less than 85, or more than 115) is considered either a favourable or unfavourable situation in that industry. Based on this, industries at risk have been highlighted in red. Identification of industries at risk was made using the following criteria:

- 1) not a single measure of demands, resources or health in the favourable zone, and
- 2) at least one of these measures falling in the unfavourable zone.

Figure 10. High risk industries for NSW

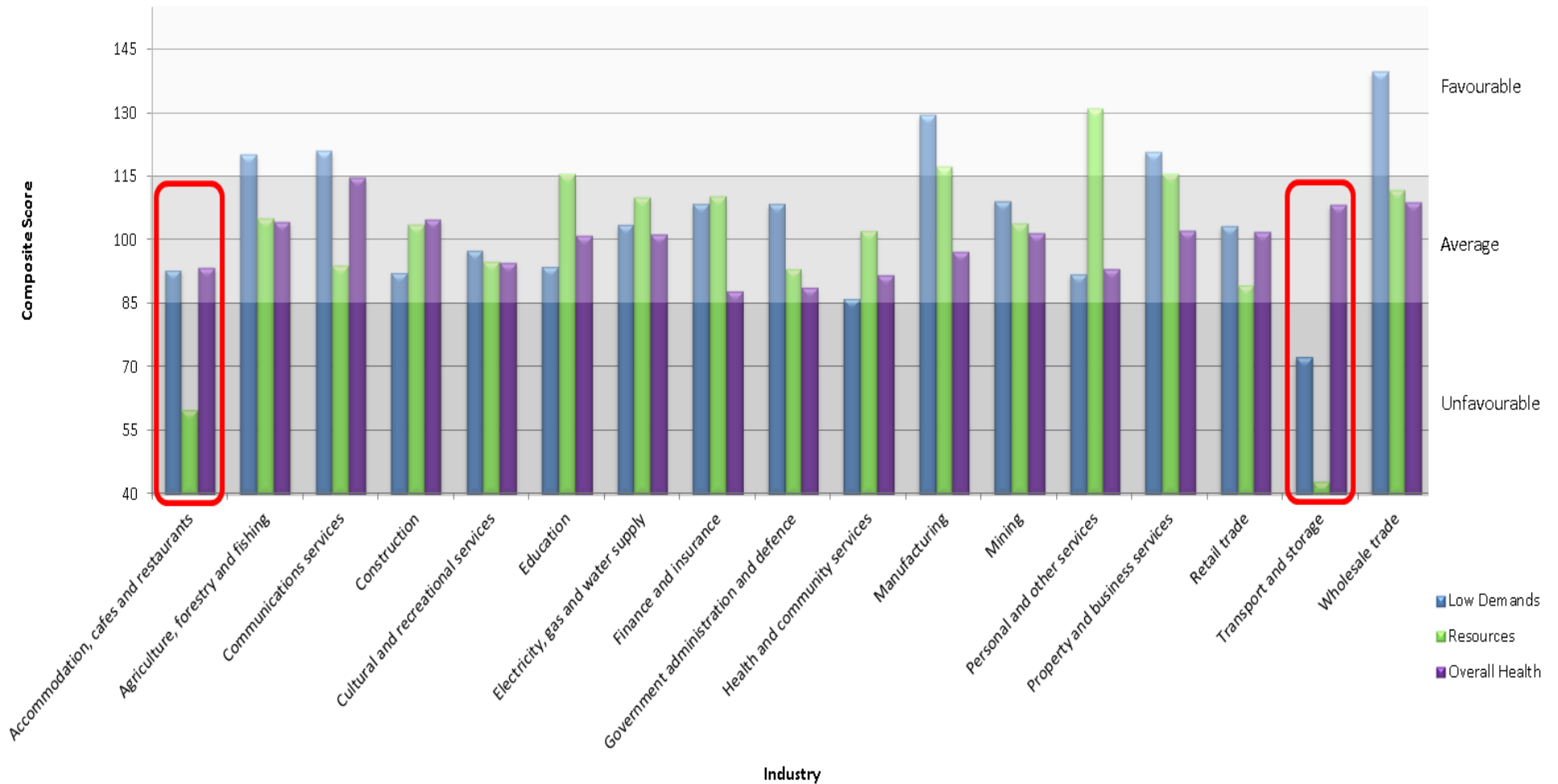
Demands, Resources and Health by Industry in New South Wales



Note: Job demands have been recoded so that high scores reflect favourable working conditions across all measures.

Figure 11. High risk industries for WA

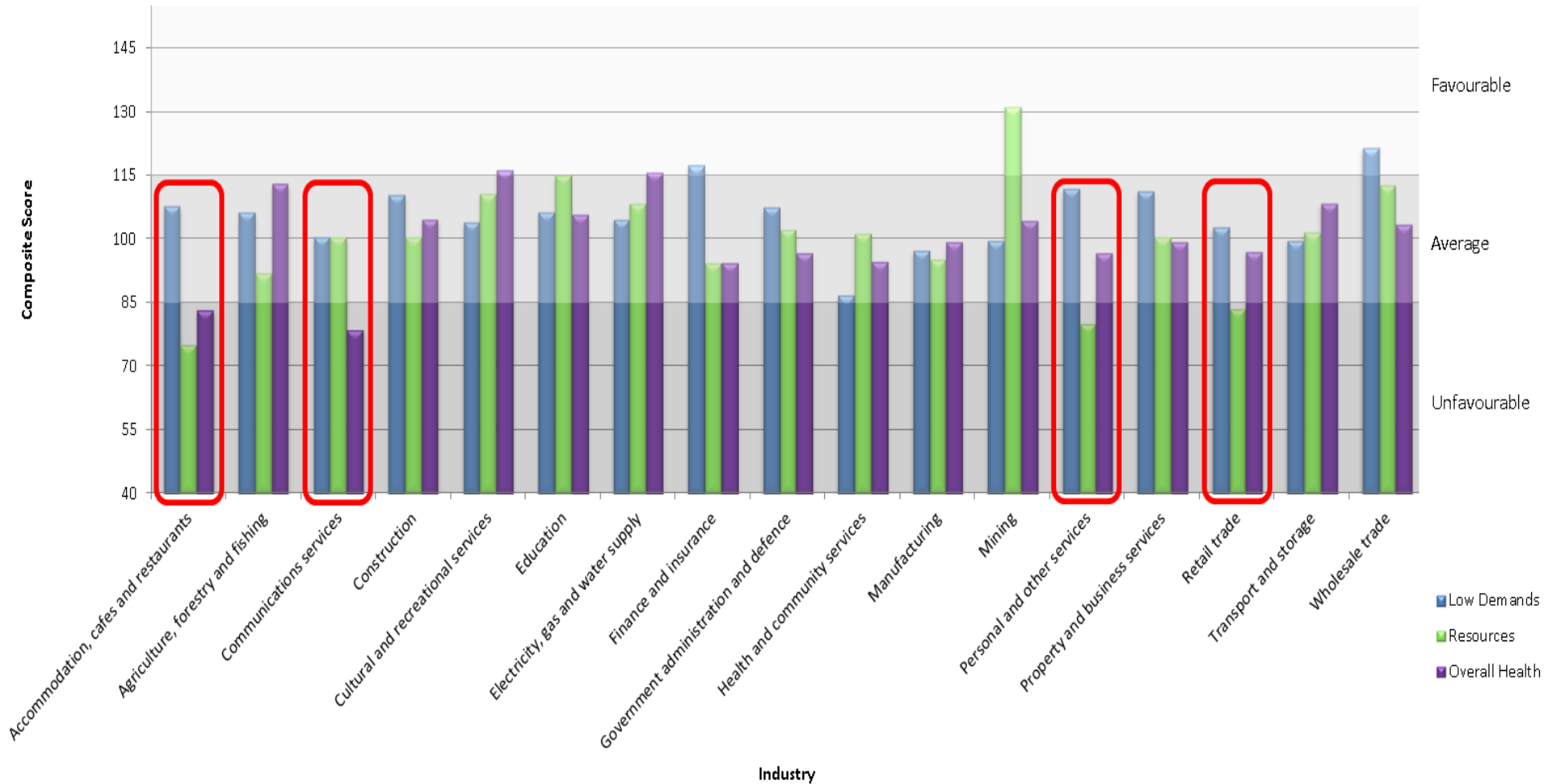
Demands, Resources and Health by Industry in Western Australia



Note: Job demands have been recoded so that high scores reflect favourable working conditions across all measures.

Figure 12. High risk industries for SA

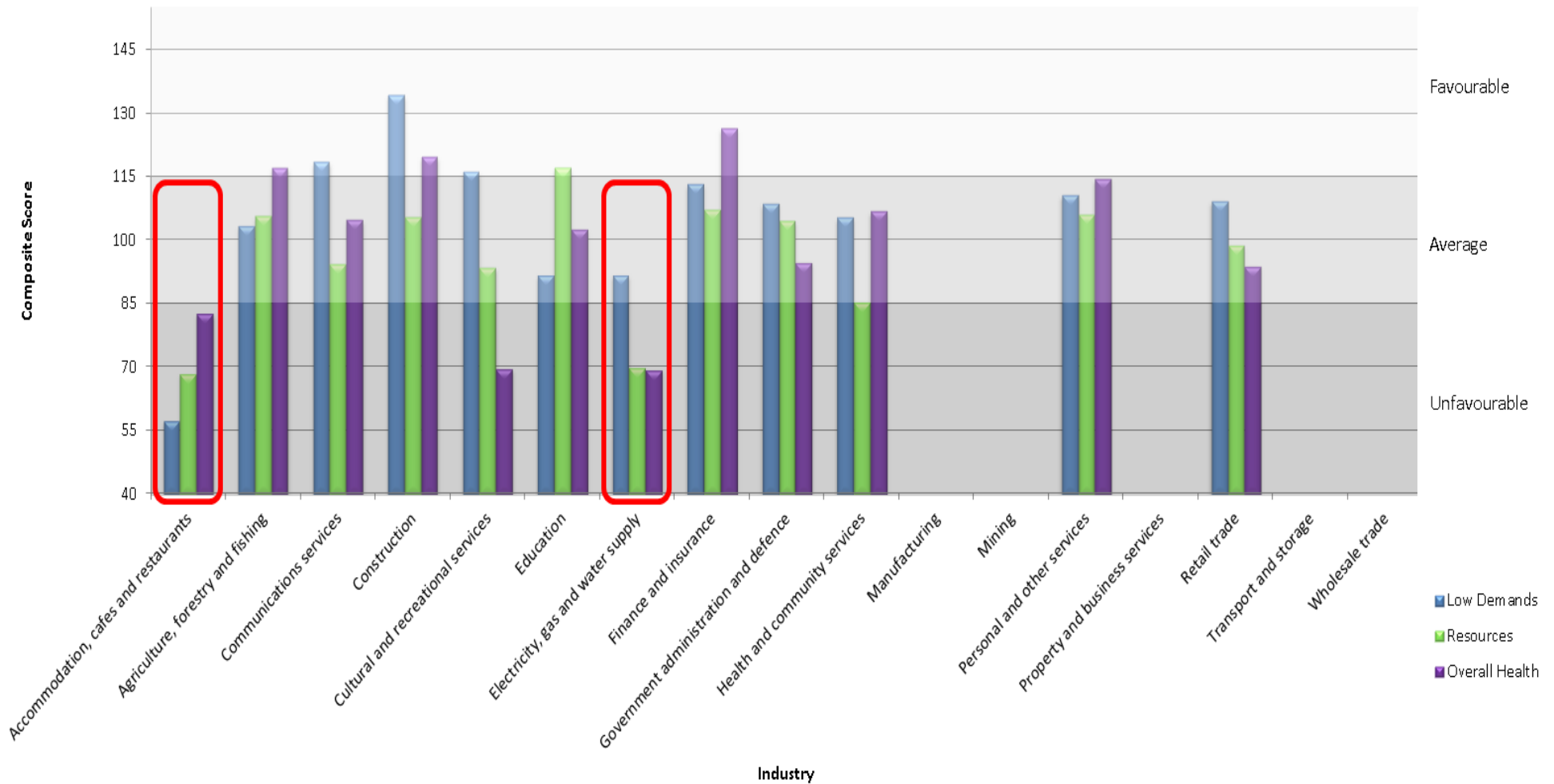
Demands, Resources and Health by Industry in South Australia



Note: Job demands have been recoded so that high scores reflect favourable working conditions across all measures.

Figure 13. High risk industries for ACT

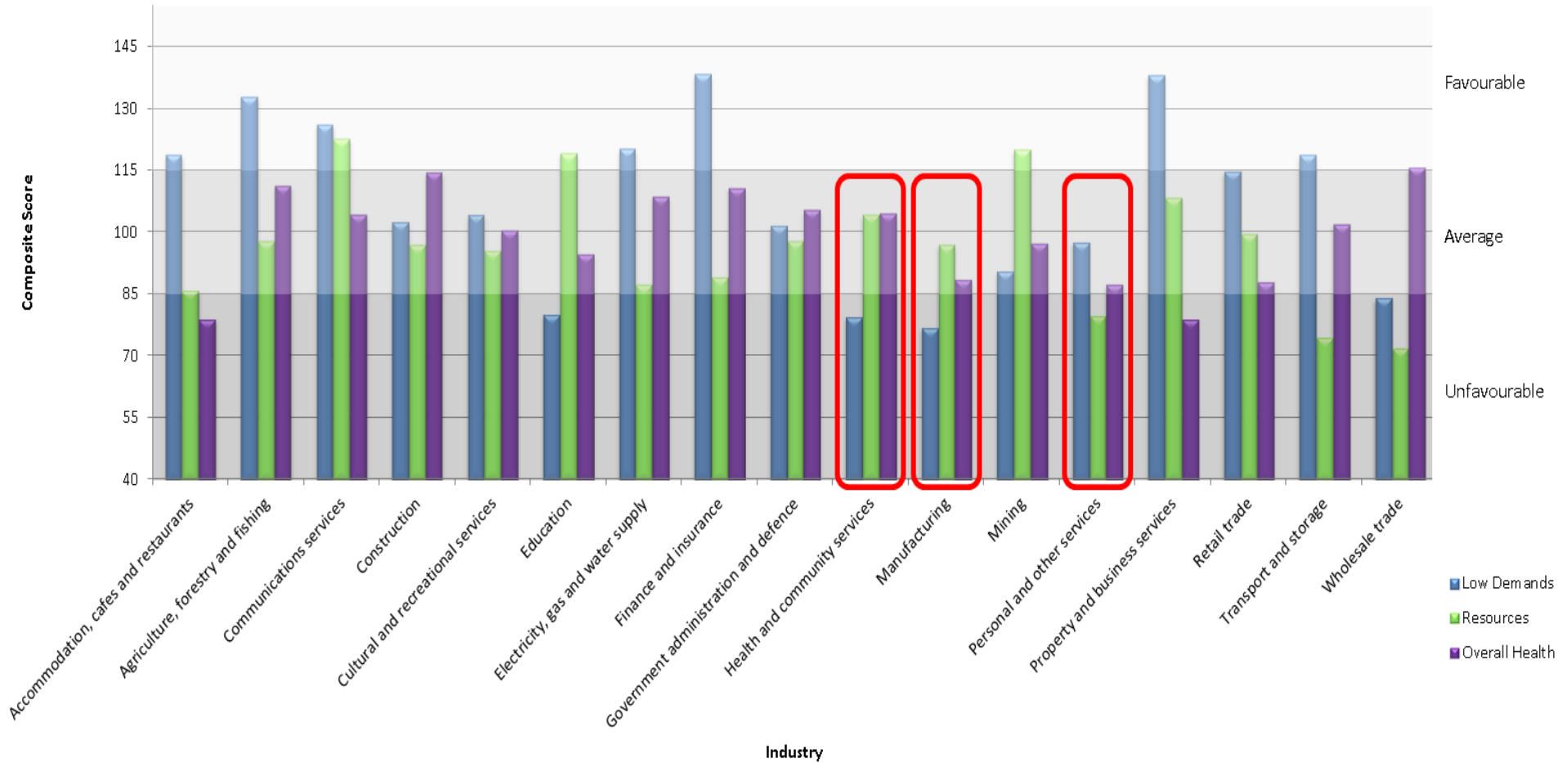
Demands, Resources and Health by Industry in Australian Capital Territory



Note: Job demands have been recoded so that high scores reflect favourable working conditions across all measures.

Figure 14. High risk industries for Tasmania

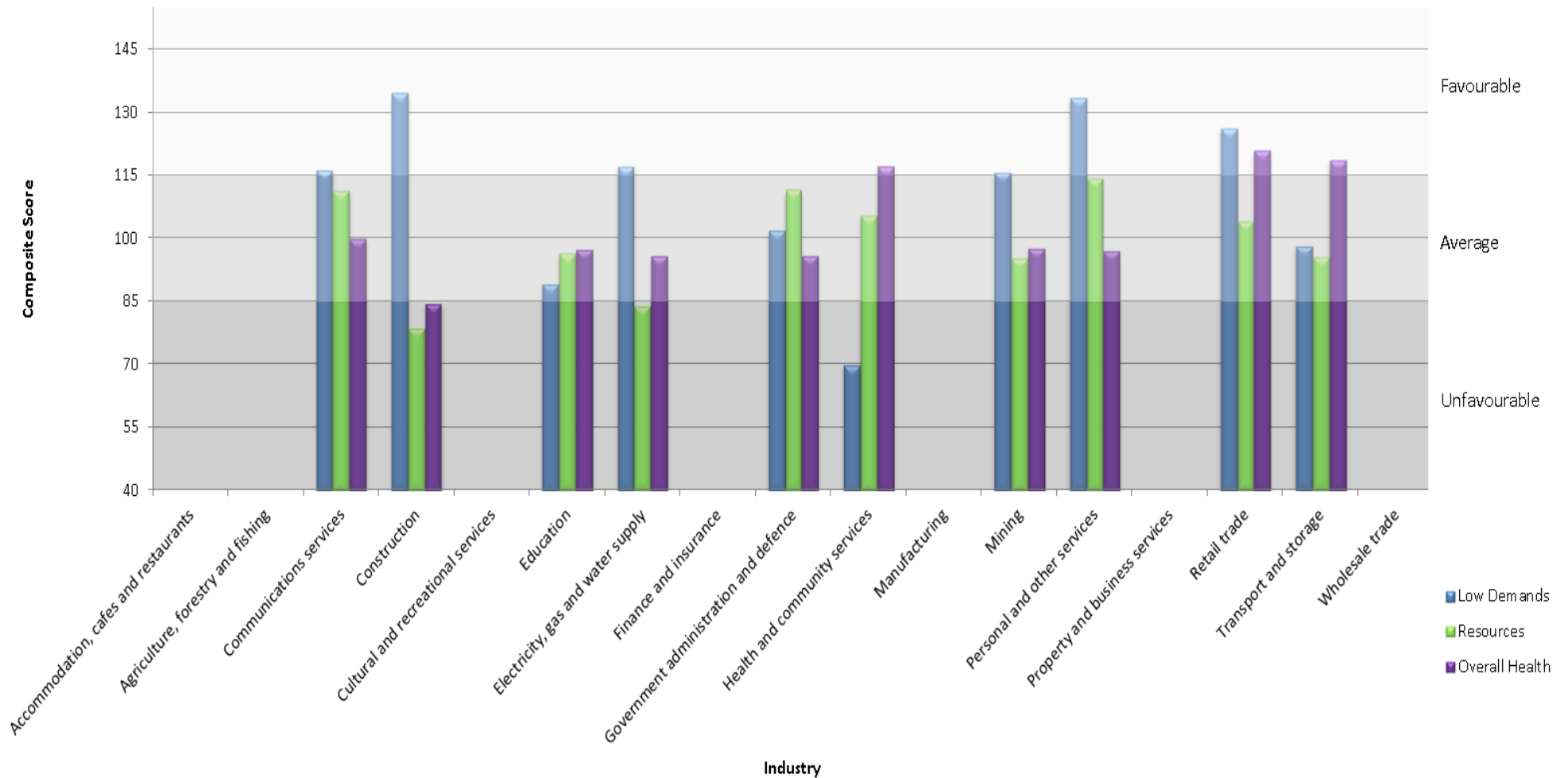
Demands, Resources and Health by Industry in Tasmania



Note: Job demands have been recoded so that high scores reflect favourable working conditions across all measures.

Figure 15. High risk industries for NT

Demands, Resources and Health by Industry in the Northern Territory



Note: Job demands have been recoded so that high scores reflect favourable working conditions across all measures.

Summary for industries at risk based on PSC, demands, resources and outcomes

Several patterns emerge in the data when taking these results together with those from the PSC industry results. In NSW, each of the industries identified as high risk (Accommodation, cafes and restaurants; Electricity, gas and water; Mining; Retail; Transport and storage) were also found as having levels of PSC below the national standard score of 41 (see Figure 4). In particular Transport and storage showed significantly lower levels of PSC compared to the national standard. This is indicative of this industry being considered a priority target by Safe Work Australia. Although compensation data indicates some decreases in injuries for this industry, overall they still record incidence rates for serious claims higher than any other industry (Safe Work Australia, 2011). In specific, the NSW Transport and storage industry is identified by Safe Work Australia (2011) as having the highest incident rates for this industry above all the other Australian states and territories. Results from this study suggest that further attention needs to be focused on improving aspects such as psychosocial safety climate in this industry to reduce incidence and injury claims.

Results for WA show that industries identified as high risk (Accommodation, cafes and restaurants; Transport and storage) were also found to have levels of PSC lower than the national standard score of 41 (See Figure 5). Similar to NSW, Transport and storage in WA also recorded a PSC figure significantly lower than the national standard. As stated above, these results indicate an urgent need to address PSC in this industry at a national level.

For workers in SA each of the high risk industries (Accommodation, cafes and restaurants; Communications services; Personal and other services; Retail) also showed PSC levels below the national standard of 41 (See Figure 6). In particular the Retail trade was identified as having a PSC score significantly lower than the national standard indicating substantially higher risk for poor health outcomes for retail workers in SA. This would suggest state based interventions are urgently needed to target PSC in the retail trade in SA.

In the ACT the Accommodation, cafes and restaurants industry was identified as being at risk. Although the mean PSC score for this industry was not below the national standard of 41 (see Figure 7) their score was not significantly higher than the national average and further investigation into the risk factors in this industry is warranted. There were not adequate numbers of respondents for the Electrical gas and water supply industry to report a PSC score for these workers in the ACT (see Figure 7), however unfavourable outcomes for this industry also imply a need for state based investigations.

For workers in Tasmania, those identified in high risk industries (Health and community services; Manufacturing; Personal and other services) also reported PSC scores lower than the national standard of 41 (see Figure 8). In specific Personal and other services reported a PSC score significantly lower than the national average indicating an urgent need to address psychosocial safety climate for this industry in Tasmania.

In the NT low numbers in a range of industries limited the identification of industries at risk. However based on the PSC scores (see Figure 9) Health and community services industry showed significantly low PSC and scores for demands were also found to be unfavourable for workers in this industry in the NT.

Practical implications for industries at risk

The above outcomes provide evidence that state based interventions are needed for specific industries at risk in each state, due to the wide variation in industries at risk between most states and territories. Strategies for improving overall health in industries with high demands may include increasing (or further increasing) PSC and job resources (such as organisational reward, supervisor and co-worker support), a process which has been demonstrated to buffer the effects of high job demands on poor overall health (Bakker, Demerouti, & Euwema, 2005; Xanthopoulou et al., 2007; Dollard & Bakker, 2010; Law et al., 2011); or lowering job demands (such as reducing hard and fast paced work, actual workload, emotional and physical demands).

The results further suggest that a national initiative focusing on industries that show high levels of risk and low PSC across a number of states, such as transport and storage would be beneficial due to significantly low levels of PSC recorded by workers in this industry in both NSW and WA as well as Safe Work Australia statistics showing high levels of serious injuries for these workers. In addition national initiatives should also be focused on the accommodation, cafes and restaurants industry which was identified as being at risk for NSW, WA, SA and the ACT. See Appendix B for additional comparisons between larger and smaller states.

Urban and rural workers' mental health

Research into psychosocial risk factors is predominantly conducted in urban settings (Kang, Staniford, Dollard, & Kompier, 2008). Australia has a heavily urbanised workforce. In 2005, 88.2 per cent of Australia's population lived in urban areas, which is roughly 8 per cent more than the US (Danaher, 2010). Despite the smaller numbers of rural workers, concerns have been raised about the mental health of those that work in rural enterprises or services. In this section we examined urban and rural variations in worker demands, resources, health, and engagement outcomes, and investigated the common belief that rural workers are at a higher risk of stress at work than urban workers – we call this the disparity hypothesis.

Most mental health research into rural and urban comparisons has investigated depression prevalence. The international research provides conflicting results with several studies showing a greater prevalence of depression in rural areas (Mechakra-Tahiri, Zunzunegui, Prévile & Dubé, 2009; Mumford, Minhas, Akhtar, Akhter & Mubbashar, 2000), several finding greater prevalence in urban areas (Mueller, 1981; Walters, Breeze, Wilkinson, Price, Bulpitt, & Fletcher, 2004; Wang, 2004), with most finding no significant differences between either (Blazer, Kessler, McGonagle, & Swartz, 1994; Caldwell, Jorm, & Dear, 2004; Kim, Shin, Yoon, & Stewart, 2002; Parikh, Wasylenki, Goering & Wong, 1996; Probst et al., 2006; Sears, Urizar, & Evans, 2000). As it stands the other effects of a community's urbanisation on workplace factors has gone largely unexplored such as its effect on employee emotional exhaustion and distress. The following significant differences were established using AWB data:

Demands

- urban workers reported slightly more work pressure
- rural workers reported moderately more physical demands, and
- rural workers reported moderately more work-family conflict.

Resources

- rural workers reported only very slightly more organisational rewards.

Outcomes

- rural workers reported very slightly lower levels of recovery
- rural workers reported very slightly more emotional exhaustion
- rural workers reported very slightly more depression
- rural workers reported very slightly more physical health problems, and
- rural workers reported slightly more engagement.

For the majority of workplace factors reviewed, there were few significant differences between urban and rural, work demands and resources. The most noticeable differences were that rural workers reported greater physical demands and work-family conflict. A primary concern for people living in rural areas is their distance from city centres, which disadvantages them when accessing support services that are more accessible in urban centres. It could be argued that communication technology development (e.g., moving from dial-up to broadband and telecommunication technology development) has reduced the divide between urban and rural areas and in this regard there is likely greater connectivity between health care professionals. Another core concern is that rural Australians hold negative attitudes towards seeking professional help for physical (Elliot-Schmidt & Strong, 1997) and psychological illness (Komiti, Judd, & Jackson, 2006; Staniford, Dollard, & Guerin, 2009), and engage in more risk taking behaviour (AIHW, 2005).

Strategies could be undertaken by rural employers to address the higher psychosocial risks in rural workplaces. Increased social support can buffer conflicts between employee work and family life (Van Daalen, Willemsen, & Sanders, 2006) and this could be achieved by orchestrating workplace social activities. Rural employers need to be mindful of the higher levels of physical health problems in the workforce, which can lead to increased fatigue and poorer sleep quality (Åkerstedt, Fredlund, Gillberg, & Jansson, 2002; de Lange et al., 2009), and increase the risk of work incidents (Nakata et al., 2006). The higher prevalence of depression in rural workers was important considering the negative impact that depression has on workplace productivity (McTernan, Dollard & LaMontagne, in review) and the associated increased risk of suicide (Blair-West, Cantor, Mellso, & Eyeson-Annan, 1999; Beck, Steer, Kovacs, & Garrison, 1985; Garlow et al., 2008; Kessler et al., 1999; Witte, Timmons, Fink, Smith, & Joiner, 2009). The improved productivity by reducing depression in the workplace could far out-weigh the costs of treatment according to Simon and colleagues (2001), and therefore strategies such as mental health first aid (Kitchener & Jorm, 2006) could be cost efficient for rural employers.

Age

It has been determined that the needs of older people in the workplace differ from younger workers. While the literature exploring the experience of older employees in the workforce largely focuses on health and productivity outcomes, the literature examining the experience of the younger generations of employees is largely focused on motivational outcomes and job performance. In terms of both engagement and overall wellbeing, younger workers seem to respond well to career advancement opportunities, professional development and challenging assignments, while older workers seem to benefit from increased autonomy, flexibility and task specialisation (Kim, Knight, & Crutsinger, 2009; Leka & Jain, 2010; Shultz, Wang, Crimmins, & Fisher, 2010).

Results from the AWB

- The experience of job demands, job resources and their relationship with health and motivational outcomes differ across age groups.
- Workers who remain in the workforce beyond the age of retirement (aged 65 and over) experience low levels of job demands, high levels of job resources and positive health outcomes.
- For older workers (65+) work pressure was strongly related to poor psychological health and decision authority was strongly related to engagement.
- Workers aged 25 – 34 had the poorest psychological health overall, however this was not strongly associated with job demands and resources.
- Workers in the youngest age group (18 – 24) experienced the lowest levels of engagement.
- Engagement was strongly associated with PSC and skill discretion for workers in the youngest age group.

In older workers, since work pressure (such as ‘working hard and fast’) is strongly associated with poor psychological health, and decision authority is strongly related to engagement, results from the AWB support an increased focus on providing such workers with roles suited to their skill set and experience, that are high in autonomy and flexibility.

In younger workers, since PSC and skill discretion are strongly related to engagement, and previous research has demonstrated that PSC is a leading indicator of worker health and engagement, such that it precedes job demands and resources in the design of an organisation. Results from the AWB data advocate for an increased focus on high levels of PSC. For example, we could reasonably expect an increase in organisational PSC will lead to an increase in both skill discretion and engagement in workers aged 18 – 24 due to its relationship with job demands and resources. Consequently, interventions targeting psychosocial safety climate within organisations that have a strong representation of younger workers (such as retail trade) will probably also result in increased tenure, and lower turnover.

Workers in the early stages of career development, aged 18 – 34, are innovative, have up-to-date knowledge and are fresh, yet are a high-risk group for the development of workplace stress and mental health concerns, and accordingly require a positive workplace environment, increased psychosocial safety climate and increased resources and support to manage job demands. Conversely, workers who remain in the workforce post retirement age are experienced and knowledgeable, with skills and experience that are likely assets to the organisation. Retaining such workers in a positive working environment should be of utmost importance to employers, and the working population.

Bullying and harassment

Workplace bullying and harassment is well-known to be an ongoing issue for organisations and communities both in Australia and around the world. The impact of workplace bullying on individual and organisational outcomes is evident with increases in mental stress compensation claims as well as changes in legislation and codes of practice that highlight the important influence bullying and harassment has over worker health and wellbeing. All work health and safety laws in Australia recognise workplace bullying as a work health and safety issue with the responsibility to prevent workplace bullying covered by the primary duty of care held by employers. Harassment is generally covered by state based anti-discrimination legislation. Although some

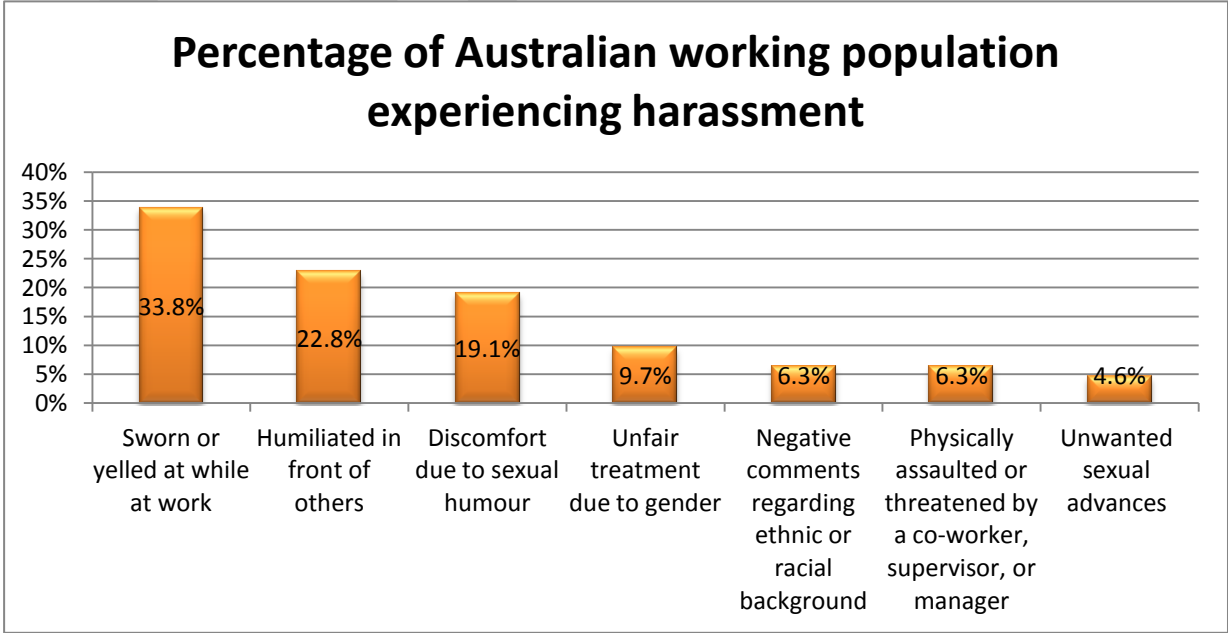
differences in legislation exist between each Australian state, in general bullying is defined as “repeated, unreasonable behaviour directed towards a worker or a group of workers, that creates a risk to health and safety” (Australian Government Productivity Commission, 2010, p.288). Regrettably, research shows that many issues still exist in relation to addressing bullying and harassment in the workplace such as problems with enforcing codes of practice, witness fear of victimisation, issues with the law, and inadequate resources and training (Johnstone, Quinlan, & McNamara, 2011).

Regardless of the importance placed on recognising and addressing workplace bullying and harassment, there is limited data on actual prevalence rates in Australian workplaces. Measures of bullying and harassment are widely varied making international comparisons difficult to interpret. In an overview of international perspectives by Zapf and colleagues (Zapf, Einarsen, Hoel, & Vartia, 2003) the research showed that when participants are presented with a precise definition, similar to the AWB, this results largely in prevalence rates of 1 to 4 per cent whereas studies that ask more generally “have you been bullied during the last 6 months” without providing a definition result in higher rates, between 10 to 25 per cent. In Australia, prevalence statistics vary greatly, generally ranging from 3.5 to 21.5 per cent of the population reporting that they experience bullying and harassment at work.

Results from the AWB data show that 6.8 per cent of respondents experienced bullying in the last six months with 3.5 per cent experiencing bullying for longer than a 6 month period. Females reported significantly higher levels of bullying and state they experienced bullying for significantly longer periods of time.

In relation to harassment specific questions were asked to gauge the particular types of harassment experienced by participants, which may or may not fall under the definition for bullying. The results showed that females reported experiencing significantly more unwanted sexual advances, humiliation, and unfair treatment due to gender, than men. Alternatively men reported significantly higher rates of physical violence and being yelled at or sworn at than women. No significant differences were found between the Australian states for most bullying and harassment items, although a small difference was found showing NSW participants reported slightly higher levels of humiliation in front of others than WA respondents.

Figure 16. Percentage of harassment for AWB sample population



Notably, our measures did not account for people who witnessed bullying or those who were bullied by co-workers of equal power. The AWB bullying questions are based on a Nordic tool that provides a definition stating that bullying can only occur if it is between parties of different strength and the victim experienced difficulties defending themselves. This restriction of what *bullying* specifically entails may have limited participant responses and may not be capturing all potential risks involved with bullying such as trauma experienced by witnesses and instances where people felt capable of defending themselves. Therefore, we caution that these figures should be considered a conservative estimate.

The AWB results suggest that continued efforts need to be made in order to protect women from sexual harassment and to promote equality in the workplace. It is interesting to note that the results also indicate a substantial need to promote better practices to protect men including reduced sexual based humour and to discourage swearing or yelling. All employees would benefit from safe work practices that specifically focus on creating a healthier working environment where sexual harassment, gender based bias, sexual humour, swearing and yelling is not considered to be acceptable; or appropriate workplace behaviour by highlighting these aspects as a high priority for better health outcomes and reduced psychosocial risk at work.

Work-family conflict

As a consequence of globalisation, an increased pressure to perform in the workplace has resulted in longer working hours, increased concerns regarding job security, and an unwanted imbalance in managing the competing demands of work and life (Geurts & Demerouti, 2003). Work-family conflict is one of the most researched constructs in the work-life balance literature and has been strongly linked to work domain factors as well as poor psychological health outcomes (Canivet et al., 2010; Geurts & Demerouti, 2003; Jianwei & Yuxin, 2011). WFC occurs when the demands of a person's role adversely impact on their ability to adequately fulfil their role as part of their family (e.g. parent, spouse, child, carer, etc) (Geurts & Demerouti, 2003; Kattenbach, Demerouti, & Nachreiner, 2010; Leka & Jain, 2010). Consequences of WFC include work and family stress (Grandey & Cropanzano, 1999), burnout and psychological strain (Frone, Russell, & Cooper, 1997; Geurts & Demerouti, 2003; Hall, Dollard, Tuckey, Winefield, & Thompson, 2010; Jianwei & Yuxin, 2011; Leka & Jain, 2010), and reduced performance at work (Geurts & Demerouti, 2003; Grandey & Cropanzano, 1999). Accordingly, WFC comes at a cost to individuals, families, and employers (Skinner & Pocock, 2011) and therefore warrants intervention.

Antecedents, consequences and trends of WFC in Australia were explored using data from the AWB and interpreted in the light of previous research and current legislation. Results indicate:

- WFC had a strong association with poor psychological health and general physical health
- WFC was most strongly correlated with emotional demands, work pressure, organisational harassment and PSC
- greater levels of WFC were reported by men, although there was no significant difference between men and women in the *strength of the relationship* between WFC and poor psychological health, i.e., WFC affects psychological wellbeing of workers similarly for both genders
- WFC was highest in middle aged workers
- the relationship between WFC and poor psychological health was strongest for the oldest (65+) and youngest (18-24) workers, and
- levels of WFC were highest in the mining, and transport and storage industries.

Assessment of risk factors for WFC in the AWB sample according to demographic and employment information indicated that WFC was highest in workers who were male, between 35 and 54 years of age, had two or more children, worked more than 40 hours per week, were employed full-time, and worked day or rotating shifts. High levels of all risk factors were particularly evident in the Mining and Transport and storage industries, which had the highest levels of WFC. These risk factors were congruent with existing research (Barnett, 1998; Frone et al., 1997; Geurts & Demerouti, 2003; Jianwei & Yuxin, 2011).

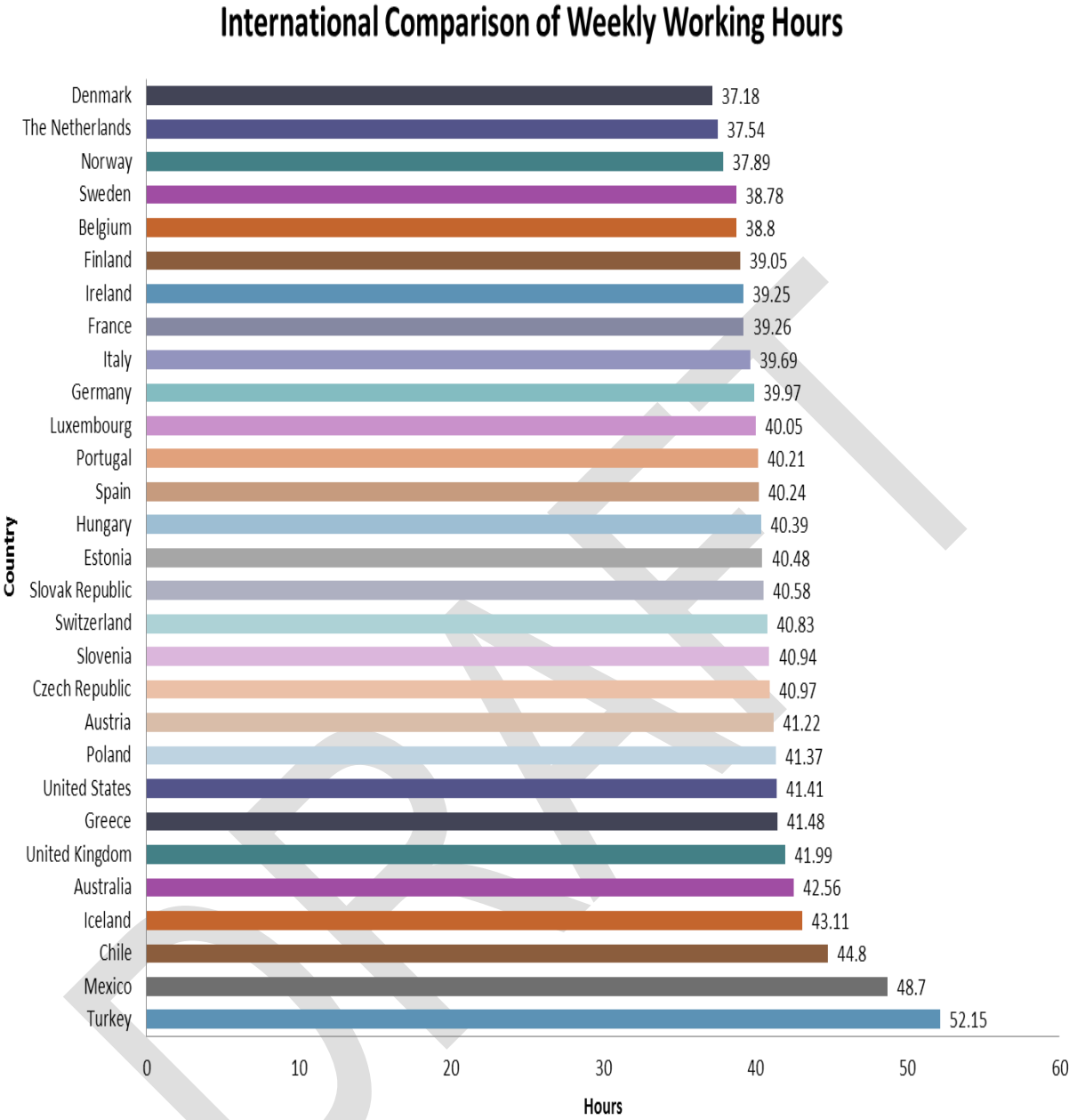
The antecedent workplace factors most strongly associated with WFC included work pressure, emotional demands, organisational harassment and PSC. This is congruent with previous research linking workplace psychosocial demands to the development of WFC (Geurts & Demerouti, 2003; Jianwei & Yuxin, 2011). Interventions beyond the implementation of flexible work environments to improve work-family conflict could therefore be directed at reducing harassment (team building), reducing emotional demands (one-to-one supervision and debriefing), reducing work pressure (appropriate management of workload and deadlines) and increasing overall PSC. Organisational interventions aimed at improving WFC should consider targeting PSC, which would focus on improving policies, practices and procedures within the organisation that eventually affect psychological health. For example, an environment high in PSC would ensure flexible work practices were in place so that WFC was reduced for employees.

As WFC is related to poor psychological and physical health, it is crucial that employers consider this demand as having a serious impact on worker wellbeing and hence productivity, which may result in increased costs to employers via increased staff turnover, sickness absenteeism and workers' compensation claims. WFC is a workplace issue that warrants intervention in order to reduce organisational costs and increase worker wellbeing and PSC should be considered as an appropriate factor for intervention.

Working hours

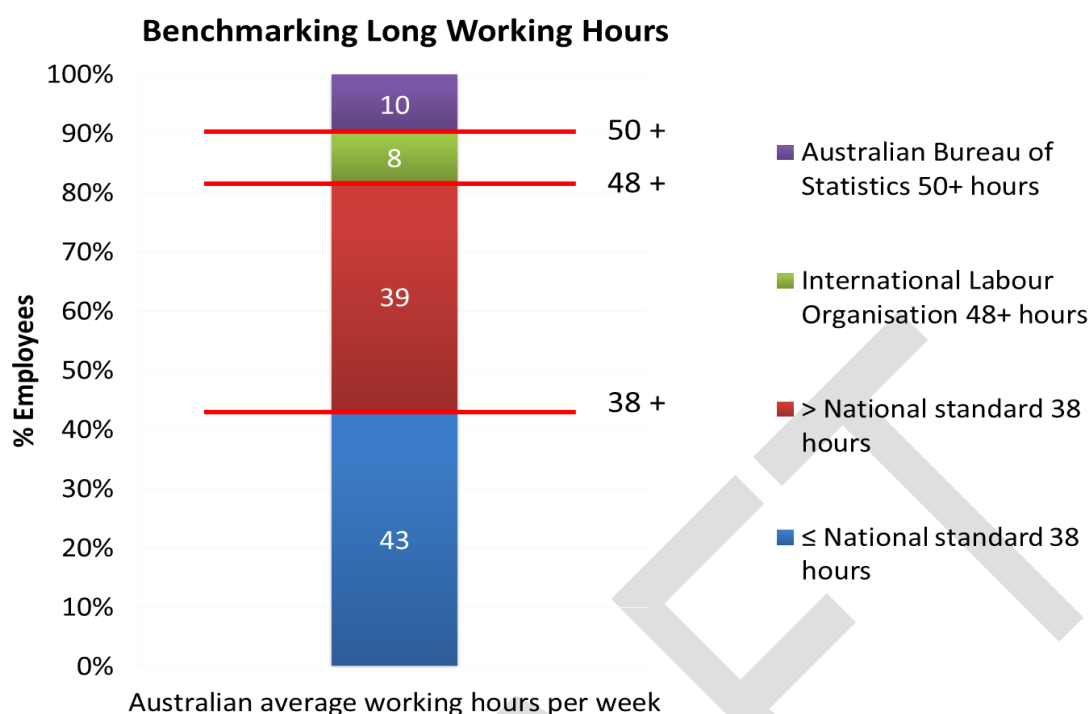
The *Fair Work Act 2009* states that employees are to work a maximum of 38 hours per work unless a request of additional hours is reasonable. Data from the Organisation for Economic Cooperation and Development (OECD; 2011) shows that full-time employees in Australia are working on average 42.6 hours per week (see Figure 17). This places Australia as the fifth highest country for average working hours.

Figure 17. Average weekly working hours by country.



AWB data of 2171 full time employees reported an average of 39 hours with a median and mode of 40 hours per week. The following fraction of workers engaged in long working hours was based on the International Labour Organisation (ILO) benchmark for long work hours of 48+ hours and the ABS benchmark for long hours as 50+ hours.

Figure 18. Long working hours defined by national standard, ILO and ABS.



Our sample suggests that 18 per cent of Australian full-time employees are working longer than the ILO benchmark of 48+ hours per work week and 10 per cent are working longer than the ABS benchmark of 50+ hours. This is an important issue as working hours was an important factor contributing to WFC, which is consistently associated with poor health outcomes in this sample.

Rates of Health outcomes: Depression, distress, emotional exhaustion, general physical health

There is an extensive evidence base of research that consistently demonstrates that psychosocial factors in the workplace, such as job demands and resources, impact on mental health as well as physical wellbeing (Bakker, Demerouti, & Euwema, 2005; Demerouti & Bakker, 2011; Demerouti, Nachreiner, Bakker, & Schaufeli, 2001; Häusser, Mojzisch, Niesel, & Schulz-Hardt, 2010; Law, Dollard, Tuckey, & Dormann, 2011; Leka & Jain, 2010; Purvanova & Muros, 2010; Xanthopoulou et al., 2007).

Prevalence rates of emotional exhaustion, psychological distress, depression and overall physical health for the AWB sample were examined and compared with ABS population statistics. ABS data reports that in 2010 there were approximately 10.2 million working Australians. Based on this figure results from the AWB participants are equated to a wider Australian working population estimating that approximately 4 million working Australians (39.15 per cent) scored in the two upper quartiles of emotional exhaustion. Further, approximately 500 000 (4.78 per cent) reported experiencing levels of psychological distress in the two upper quartiles.

The depression measure provides clinical indicators for levels of depression in the sample population. Results show approximately:

- 1.7 million workers in Australia experience mild levels of depression, and
- 22 per cent of Australian workers experience symptoms of clinical depression ranging from moderate to severe.

For physical health results show 1.1 million workers in Australia reported in the poorest two quartiles (11.85 per cent). The prevalence of mental health problems was higher than the prevalence of general physical health issues.

It was noted, that in the AWB sample of working Australians prevalence rates of clinical depression as set in the PHQ-9 Spitzer, Kroenke, & Williams (1999) of 5.5 per cent are similar to rates for affective disorders within the working population found by the ABS (2008). However rates of anxiety (psychological distress) within the AWB working population were (4.7 per cent) were lower than the anxiety disorder rates for the working population (14.2 per cent) as reported by the ABS (ABS, 2008). However this could be due to differences in the scales used to measure mental health outcomes rather than showing a difference between the two sample populations.

The cost of employee productivity loss: Depression as a significant contributor

Research has established that depression can be linked to increased absenteeism rates (Laitinen-Krispijn & Bijl, 2000; Lim, Sanderson, & Andrews, 2000). For example Kessler and colleagues (1999) found in a US sample that depressed workers take 1.5 to 3.2 times as many short-term work-disability days (absent days and low productivity days) than non-depressed workers. In support of this finding, results extrapolated from the AWB sample (NSW and WA) indicate that:

- severely depressed workers were nearly 6 per cent less productive at work (presenteeism) as mildly depressed workers, and
- severely depressed workers take nearly three times as many sick days as mildly depressed workers (McTernan, Dollard & LaMontagne, in review).

The study also estimated that depression that is related to bullying and job strain costs Australian employers approximately \$AUD8 billion annually because of sickness absence and presenteeism (that is being at work but not being fully productive for reasons such as illness, personal issues or distractions in the environment). Importantly the majority of dollars lost are due to employees who report only *mild* symptoms of depression, when compared to those reporting moderate to severe depression. Furthermore, the findings suggest that up to 8.66 per cent of that burden could be alleviated by eliminating workplace bullying and job strain.

- The national burden to employers of depression due to bullying and job strain is \$8 billion dollars.

Despite the more severe levels of depression leading to greater productivity loss per worker, the large number of mildly depressed workers (24 per cent, compared to 0.6 per cent severely depressed) represent the greater productivity cost.

- Participants with mild depression actually represent the greatest volume of the financial burden (61 per cent).

This information is crucial to intervention as employers may not be aware of the high costs associated with even mild levels of depression, and may also struggle to recognise or address these lower levels of depression in the workplace. Therefore there is a need to focus on known lead risk indicators of depression. In light of these findings, it is reasonable to suggest that a national intervention program aimed at reducing bullying and managing job strain will not only improve worker wellbeing but also reduce tangible costs and increase productivity outcomes in the workplace, benefiting both employers and the wider Australian community. Finally it is important to note when interpreting these findings that other negative outcomes from depression were not measured, such as tenure and turnover rates and the effect depressed worker's behaviour may have on the productivity of co-workers; in other words the cost estimate is conservative.

Estimating lost productivity costs of poor psychological health in the workplace

The results from our report add to the growing evidence that other aspects of psychological health aside from depression, such as psychological distress and emotional exhaustion, affect productivity via presenteeism and absenteeism. The volume of available literature is limited however, and cost estimates have not been reviewed. Additionally, a variety of causes of poor mental health exist in the workplace with differing time-related exposure effects. To address this void we examined the collective end point of the problem: a combined index of poor mental health, and its relationship to productivity loss. This study considers that poor mental health has an impact at work, despite its origins.

To create the index, two additional psychological health outcomes were used in addition to depression. Psychological distress is a mental state that encompasses both depressive and anxiety symptoms (Kessler & Mroczek, 1994). Psychological distress has been found to relate to higher work and family life interference (Major, Klein, & Ehrhart, 2002), greater absence from work (Hardy, Woods & Wall, 2003) and specifically sickness absenteeism (Bultmann et al., 2005; Munir et al., 2007), and higher presenteeism (Munir et al., 2007).

Another form of poor psychological health, emotional exhaustion – a core component of burnout, encompasses physical and emotional fatigue that occurs in the workplace (Maslach, Schaufeli, & Leiter, 2001) was used. High levels of emotional exhaustion have been linked to decreased job performance (Babakus, Cravens, Johnston, & Moncrief, 1999; Wright & Bonett, 1997; Wright & Cropanzano, 1998), an increased risk of job turnover (Babakus et al., 1999; Jackson, Schwab, & Schuler, 1986; Wright & Cropanzano, 1998), and negative attitudes towards work (Leiter & Maslach, 1988; Wolpin, Burke, & Greenglass, 1991).

Psychological distress, emotional exhaustion and depression were standardised, and then combined into a composite score that was divided into four quadrants. Quadrants were separated by the participants' scores (the lowest scoring 25 per cent, the next lowest 25 per cent, the next highest 25 per cent and the highest 25 per cent), reflecting levels of psychological health. Means for each quadrant were then generated for sickness absence (days missed in the last month) and presenteeism scores (measured on a scale from 0-10 regarding how hard they felt they worked in the last month). This information was combined with national

wage data (ABC Diamond, 2009) and national labour figures to estimate cost of sick days and presenteeism. Our findings showed:

- the least psychologically healthy workers (lowest quartile) had nearly 6 times as much sickness absence compared to the healthiest
- the annual productivity loss per worker through sickness absence and presenteeism was nearly double for the least psychologically healthy (\$AUD15,050) compared to the healthiest (\$AUD8,334)
- improving the psychological health of the most unhealthy 25 per cent to the levels of the 25 per cent most psychologically healthy, would save an estimated \$AUD17.84 billion, and
- the estimated cost of all other workers over the most psychologically healthy was \$AUD32.18 billion.

The estimated cost of productivity loss for the most psychologically unhealthy 25 per cent of the Australian workforce was \$AUD 17.84 billion, which reflects the size of the burden that could be potentially reduced by improving the psychological health of Australian employees. The study goes further to see the cost that could be saved by potentially improving psychological health levels to the top 25 per cent, which was an estimated \$AUD 32.18 billion. The present study therefore not only reflects the cost of poor health, but the cost-benefits of highly psychologically healthy workers.

As mentioned earlier there are additional costs that need to be considered that the present study does not encapsulate. In addition to lost productivity by the absence and presenteeism of an employee canvassed here, additional costs include recruitment, hiring, training and administration costs arising from job turnover. These costs would be significant as LaMontagne, Sanderson and Cocker (2010) found that turnover was the largest contributor to the cost outcome (\$AUD 8.93 billion) of an estimated \$AUD 12.6 billion cost associated with depression in the workplace. There would also be additional knock on effects to co-worker productivity while replacements are found and trained. As none of these costs are included in our estimate, the overall cost could be considerably greater.

Poor psychological health therefore presents a concern for the wellbeing within an organisation, as well as its revenue. This relationship was supported by previous literature and demonstrated in our findings, which showed considerable differences in productivity outcomes (sickness absence and presenteeism) between each level of psychological health. Furthermore, systematic reviews in the literature show a variety of interventions are available to minimise psychosocial risks at work (Bambra, Egan, Thomas, Petticrew, & Whitehead, 2007; Bambra et al., 2009; Egan et al., 2007; LaMontagne, Keegel, Louie, Ostry, & Landsbergis, 2007). With various intervention strategies available, employers stand to benefit from improving and promoting psychological wellbeing at work via assisting workers experiencing poor psychological health, as well as raising the wellbeing of other workers as well.

Policy implications for intervention

In summary, the AWB results confirm important relationships exist with psychosocial risk factors at work, and suggest the prominence of PSC as a target for intervention in the proposed national Australian work health and safety strategy. The results also indicate that safe work strategies and workplace interventions will be most effective if directed at reducing emotional demands and work pressure, improving work-life balance, and proactively addressing bullying and harassment issues by promoting appropriate workplace behaviour. Organisations and employers will also benefit from addressing levels of organisational reward provided to employees by encouraging employers to consider the importance that respect, recognition, job security, and the opportunity for career development can have on improving employee productivity and wellbeing. These aspects are becoming increasingly important with growing trends towards casual, contract, and part-time employment and should therefore feature in Australian work health and safety strategy development.

Other influential factors include supervisor support, organisational justice, and increasing employee control concerning how they utilise their skills and ability to influence decision-making processes. Those at most risk such as workers aged 25 to 44, and employees in the transport and storage and Accommodation, cafes and restaurants industries would benefit from specific and immediate national intervention. State based interventions are needed to target at risk industries that are particular to each state or territory.

Health outcomes for women would likely improve if provided with more control in their work as well as continuing effort to reduce sexual harassment and improve gender equality. Men would likely benefit from more flexible working conditions and increased work-life balance as well as the promotion of positive working environments where sexual humour, swearing and yelling are not considered an acceptable practice.

It should also be noted that interventions to address these issues may not be effective if organisations have low PSC as research indicates that strategies to improve psychosocial risk factors may only be effective in organisations with high PSC (Dollard, 2012). Therefore improving organisational PSC, which will likely lead to reduced risk and improved employee health, should be considered a priority for all intervention and primary prevention strategies.

In order to ensure that organisations are adhering to best practice standards for psychological injury prevention it is recommended that regular systematic measures of factors such as PSC be required by legislation, particularly for those industries (by state) that have been identified as being at high risk. Other best practice strategies may include codes of practice requiring psychosocial safety climate and/or risk factor statistics to be provided in annual workforce health and safety reports.

Conclusion and future directions

The main objectives of the AWB project were achieved in that the results were used to develop a nationally representative database of psychosocial risk levels. This led to the identification of at risk groups based on aspects such as age and industries. Risk levels were also reported for industries in each state to guide state and nationally based interventions. The cost of poor worker wellbeing was also calculated and provide evidence for potential benefits to workers, organisations, employers and the wider Australian society. These results can now be in the design and evaluation of work health and safety interventions, prevention campaigns, policies and codes of practice. To date data from over 3513 workers from NSW, WA, SA, the NT, the ACT and Tasmania has been collected. Repeat measures have been collected from NSW and WA, and will be collected in SA in 2012.

Continued systematic surveillance of psychosocial risk factors at work is required at a national level to inform national policy and interventions. Most intervention studies focus on job specific or individual based interventions, whereas interventions at the organisational and macro-level (i.e., state) have been largely ignored (Leka, Cox, & Zwetsloot, 2008). To date research has found worker health effects due to PSC assessed at an individual level (Idris, Dollard, & Winefield, 2011), at a work unit level (Dollard & Bakker, 2010; Dollard, Tuckey, & Dormann, 2012), at an organisational level (Law et al., 2010), and at an industry level (this research) and now at a national level (Dollard & Neser, in review). A growing body of evidence suggests that building PSC at an organisational level will assist in improving Australian working conditions for psychological health and productivity. Future research will also investigate the possibility of building and measuring PSC at the state and national levels.

Several projects have been proposed to build PSC at the organisational and industry levels. Before and after evaluations of work groups within different organisations will be conducted using the AWB tool. A secondary but important goal here is to develop a short industry friendly tool based on the AWB instrument to assess psychosocial risk within the industry. A second intervention is a state-level intervention where workplace inspectors receive training about identifying and assessing psychosocial risks as well as intervention utilising tools such as online AWB reports and the PSC hierarchy of control.

Future objectives of the AWB project, that require continued data collection and collaborative partnerships, will involve a more thorough examination of causal factors based on longitudinal data outcomes. These objectives include:

- track cohorts over time and monitoring changing trends
- test a multilevel model of PSC longitudinally combining data from all states and territories
- evaluate the impact of national policy or legislation changes. Australia is currently introducing national harmonisation of work health and safety legislation. The effects of this reform on work conditions are completely unknown. Our data set will enable us to evaluate the impact of work health and safety national harmonisation on psychosocial risks, health and well-being in Australian work environments
- act to get the best from current data sets through data linkage to other data sets, e.g., Medicare, Safe Work Australia data sets, work health and safety data re rates of injury by occupation, and the National Coroners Information System to link national death and suicide data to the AWB

- develop productivity metrics and estimate costs of psychosocial risks to employers in terms of lost productivity due to presenteeism and absenteeism in dollar terms, and
- calibrate and publish the risk levels of PSC to coincide with risk levels of depression

The AWB project is in the national interest. If its future objectives are included in the Australian work health and safety strategy this would help to bring esteem to the project, and funding opportunities so that it can continue to contribute to both the national and international stock of evidence in relation to psychosocial factors at work. Only by conducting ongoing longitudinal data collection using the same measures on the same participants over extensive period of time can the actual causes of poor employee health be identified allowing effective strategies for improving worker wellbeing to be developed.

DRAFT

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Appendix A

Glossary of terms

Absenteeism refers to when an employee does not turn up for scheduled work due to illness (mental or physical).

Absorption relates to being deeply immersed in one's work in a positive manner.

Australian Workplace Barometer a surveillance system that systematically monitors and benchmarks psychosocial risk factors in Australian workplaces and investigates their relationship to employee health and wellbeing outcomes.

Australian Workplace Barometer project aims to provide science-driven evidence of Australian work conditions and their relationships to workplace health and productivity.

Autonomy refers to having control in relation to decision making and skill discretion at work.

Bullying repeated unreasonable behaviour that creates risk to health and safety.

CATI Computer assisted telephone interviewing.

Clustering at the organisational level the organisation in to groups of individuals from different organisations to get more accurate average perceptions of PSC and other organisational factors to compare different workplaces.

Correlations are a measure of the degree of linear relationship between two variables, for example, a positive correlation between PSC and organisational rewards indicates that as PSC improves, so do rewards.

Co-worker support is social support given by co-workers on the job.

Cross-sectional design uses data gathered once at roughly the same time to establish correlational relationships.

Decision authority is a person's ability to influence how they perform their role in the workplace.

Dedication concerns enthusiastic involvement in challenging tasks.

Demographic variables are factors such as age, gender and other variables such as income or migration status.

Depression is a common mental disorder characterised by often chronic impairment of the individual's ability to fulfil daily responsibilities such as self-care. Symptoms include lowered mood, reduced interest and self-worth, disturbed sleep/appetite, and lethargy.

Emotional demands are the level of emotional effort required to perform in a given situation.

Employee health is the physical and mental status of a worker's wellbeing.

Engagement consists of vigour, dedication, and absorption, the three of which comprise the affective-motivational state of an 'engaged' worker. With all these characteristics combined, the engaged worker is enthusiastic and tackles work energetically to the point that time passes relatively quickly for them.

Exhaustion at work is a negative state that results from extended involvement in demanding environments.

Harassment is a wide range of offensive and/or unwanted behaviours based on factors such as race, gender or sexual orientation.

Health erosion pathway suggests that effort to cope with chronic job demands leads to an erosion of a worker's energy reserve which in turn leads to negative responses, and in the longer term to psychological injury and health problems.

Health outcomes are a change in the health status of a person or group such as mental or physical wellbeing.

High risk groups collections of individuals with the immediate potential to succumb to a negative outcomes (groups may be industries, etc.).

Job control skill discretion, decision authority, macro-decision latitude, support supervisor social support, co-worker social support.

Job demands factors that have to be completed at work that create any psychological, physical, or emotional job demands.

Job Demands-Resources (JD-R) model psychosocial work conditions, particularly job demands are significant predictors of employee health via a health erosion pathway. The model further predicts that job resources will be related to work engagement and productivity outcomes via a motivation pathway.

Job resources factors that assist in achieving work goals, such as justice and rewards.

Job satisfaction a one item measure of an individual's overall satisfaction with work.

Job security the knowledge that one's position at work is safe and stable.

Macro-decision latitude is the capacity for influencing decision making processes at the organisational level.

Management commitment is a PSC subscale that reflects the commitment and support management give to work stress prevention and the protection of psychological health.

Management priority is a PSC subscale that relates to the priority of concern management have about the psychological health of workers versus productivity imperatives.

Mediation is when a variable explains all or part of the relationship between a predictor and outcome.

Mental health outcomes *psychological states including emotional exhaustion, psychological distress, and depression.*

Moderation *is when a variable affects the direction and/or strength of a relationship between a predictor and outcome.*

Motivational outcomes *individual predispositions to perform well or poorly in their workplace, such as work engagement.*

Motivational pathway *adequate resources are motivating and lead to engagement, and in turn to positive organisational outcomes such as improved performance.*

Organisation communication *is a PSC subscale that refers to communication of information about psychological well-being and psychological safety issues, and listening to the contributions of employees about occupational health and safety concerns.*

Organisation participation *is a PSC subscale that reflects the extent of participation, consultation and involvement of all stakeholders and levels of the organisation in stress prevention.*

Organisational justice *relates to adherence to a fair processes, equal say, the expectation of respect from others, and general equality expected in implicit norms in the workplace.*

Organisational level, *for example PSC is largely determined by management attitudes and values we theorise that PSC will vary within and between organisations.*

Overall psychological health *a score derived from the standardisation of emotional exhaustion, psychological distress, and depression.*

Overall wellbeing *is a score derived from the standardisation of general physical health with emotional exhaustion, psychological distress, and depression.*

Physical health *outcomes refer to physical conditions that adversely affect their health.*

Presenteeism *unlike absenteeism, is where the employee does attend work but is not able to fully engage on the job due to distractions (physical, mental or emotional health, and problems such as job characteristics, or disruptions due to other life issues).*

Primary interventions *concerned with strategies aimed at the organisational level such as policy and procedure.*

Productivity *is a measure of the efficiency in producing useful outputs.*

Work pressure *is the effort required within a work role such as how hard and fast a person is required to perform their work tasks.*

Psychological distress *is the effect of internal conflict or external stressors that causes a person suffering.*

Psychological health *a state of mental and emotional wellbeing where a person is able to cope with the demands required of them.*

Psychological illnesses *involve a variety of conditions that impair an individual's cognitive, emotional or behaviour functioning such as stress, anxiety or depression.*

Psychological injury claims *are made when a worker formally requests compensation for a major impact on their psychological health under Australian law.*

Psychosocial hazards *are defined as aspects in the workplace such as job content, work organisation and management, environmental and organisational conditions, and the employees' competencies and needs on the other that have a hazardous influence over employees' health and wellbeing.*

Psychosocial risk *as consisting of workplace factors such as job content, work organisation and management, environmental workplace conditions, and employee's competencies the interaction of all these variables that is recognised as having a potentially hazardous effect on employee health.*

Psychosocial risk factors *are factors in the workplace such as demands and resources that have the potential to cause psychological or physical harm.*

Psychosocial safety climate *refers to an organisation's true priorities for the protection of worker psychological health that are largely reflected through enacted organisational policies, practices and procedures.*

Recovery *refers to the ability to recover between work periods.*

Regression analysis *testing how much variance is explained in a dependent variable by a number of explanatory variables.*

Role conflict *is when there is lack of compatibility between expectations within a person's job role.*

Second wave of data *are follow-up responses from the participants at a later date. When time has passed between two waves of data collection it allows prediction of causal effects.*

Secondary interventions *are aimed more at the job design aspects including levels of demands and resources.*

Sickness absence *as per absenteeism, but only when the reason for absence is illness.*

Stress claims *worker's compensation claims made for psychological stress, such as depression.*

StressCafé *a website in development permitting collection of national level data using the Australian Workplace Barometer in an online medium.*

Support *is aid received from others in the workplace, such as supervisors and co-workers.*

Surveillance *measuring and addressing workplace factors that lead to poor health outcomes.*

Task specialisation *is a specific activity, action or process within a job role.*

Tertiary interventions *focus on the individual such as coping skills and to reduce the effects of the psychosocial risk factors.*

Vigour *refers to energy levels during work as well as mental resilience.*

Weighting *based on factors including age, gender, number of phone numbers in the white pages and number of members of the household, to establish representativeness of the sample to the wider Australian population.*

Work outcomes *measurable workplace outcomes such as productivity and absenteeism.*

Work stress *is a harmful physical and emotional condition resulting from a variety of workplace conditions.*

Work-family conflict *occurs when the demands of a person's role adversely impact on their ability to adequately fulfill their role as part of their family.*

Working hours *is a measure of how many hours participants worked over the last seven days in total.*

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Appendix B

Summary of Data Collection Methodology and Weighting

Sample selection

Interviews were conducted in Tasmania, the Australian Capital Territory (ACT) and the Northern Territory (NT). All households with a telephone number listed in the Electronic White Pages (EWP) were eligible for selection. Initially a sample of 7,354 (3750, 2104, and 1500 for Tasmania, the ACT and the NT respectively) was selected. Within each household, one adult, aged 18 years or over, who was the last to have a birthday and was currently in paid employment was selected for interview.

Introductory letter

A letter introducing the study was sent to the household of each selected telephone number. There was no replacement for non-contactable persons. The letter informed people of the purpose of the survey and indicated that they could expect a telephone call within the time frame of the survey. Overall, 56.2 per cent of those who participated indicated that they had received the letter.

Questions

Questions were provided by the Chief Investigators for the project in conjunction with other researchers in the field and based on those previously asked in New South Wales and Western Australia. The average interview time was 31.5 minutes.

Data collection

Data were collected by a contracted agency and interviews were conducted in English.

CATI

The CATI (Computer Assisted Telephone Interview) system was used to conduct the interviews. This system allows immediate entry of data from the interviewer's questionnaire screen to the computer database. The main advantages of this system are the precise ordering and timing of call-backs and correct sequencing of questions as specific answers are given. The CATI system enforces a range of checks on each response with most questions having a set of pre-determined response categories. In addition, CATI automatically rotates response categories, when required, to minimise bias. When open-ended responses are required these are transcribed exactly by the interviewer.

Call backs

At least 10 call-backs were made to the telephone number selected at random from EWP to interview household members. Different times of the day or evening were scheduled for each call back. If a person could not be interviewed immediately they were re-scheduled for interview at a time suitable to them. Replacement interviews for persons who could not be contacted or interviewed were not permitted.

Validation

Of each interviewer's work, 10% was selected at random for validation by the supervisor. The contracted agency is a member of Interviewer Quality Control Australia (IQCA).

Response rates

The overall sample response rate was 27.7 per cent and the participation rate was 42.1 per cent. Initially a sample of 7354 was drawn. Sample loss of 3720 occurred due to non-connected numbers (1755), non-residential numbers (85), fax/modem connections (60) and ineligible (not working or self employed or not in area (1762). From the eligible sample of 3634, the overall response rate was calculated as shown in Table 5.

Table 5: Response rate

	n	%
Initial eligible sample	3634	
Refusals	1237	34.0
Non-contact after 15 attempts	1271	35.0
Respondent unable to speak English	49	1.3
Incapacitated and unable to be interviewed (ie too ill, hearing impaired, deceased)	25	0.7
Terminated interview	6	0.2
Respondent unavailable	40	1.1
Completed interviews	1006	27.7

The response rate is determined by the following formula:

Response rate = completed interviews / initial eligible sample.

The participation rate is determined by the following formula:

Participation rate = completed interviews / (initial eligible sample - non-contact after ten attempts).

Weighting data

For every survey there is usually a difference between the actual proportion (based on sex and age groups) identified by the Australian Bureau of Statistics (ABS) data and the proportion in each sex and age group actually interviewed. If correction for the non-responders is not undertaken, the results of any analyses will be biased. To eliminate or reduce potential biases and to make sure that the results accurately reflect the population of interest, the data were weighted. This is common in probability-based sample surveys and ensures that the sample is representative. Those groups that are over-represented include respondents easier to access and under-represented groups include respondents whom are harder to access. The weighting process will weight down the age/sex/area groups where too many respondents were interviewed and weight up the groups where not enough respondents were interviewed in order to be representative of the population structure. The overall number of observations (the total number of records) does not change.

The data in this survey have been weighted to the Australian Census (2006) released by the ABS in 2007¹. The number of people in paid employment but not self employed by age group and sex was determined from these figures.

One respondent did not provide an age and could not be weighted. This respondent was removed from the data.

State weight

The data are weighted by age, sex and probability of selection for those aged 18 years and over in the household who worked in paid employment, but were not self-employed, to reflect the structure of those employed full or part time in Tasmania, the ACT and the NT. A weight variable (called *statewt*) has been produced.

Analyses should use the overall weight:

SPSS Command

We recommend that the weight variable is permanently set on. Once a weight variable has been applied it remains in effect until it is turned off. The SPSS instructions to weight cases are as follows:

- From the menus choose:
Data
Weight cases.....
- Select *Weight cases by* (and select *wt* from the list of variable names).

All further analysis will use weighted data. Saving the dataset with the weighted variable switched on will ensure that the weighting is applied when the data is next opened. The status bar at the bottom of the SPSS application window displays the message "Weight on" if weighting is in effect in the working data file.

Formal Definition

The sample weight is the inverse of that person's selection probability, and signifies the number of individuals in the target population that the sampled individual represents.

Additional Note

Although in most examples the weight is applied to correct for selection bias, the data can be weighted to change a population base - for example the sample data could be used to provide expected estimates for another population (Australia instead of SA) or to be used in a meta analysis. Advice on these procedures is available from PROS.

Appendix C

Results from structural equation model

We controlled for age, gender and income. To test how well the theoretical model fit the data we used a range of indices; the Root Mean Square Error of Approximation (RMSEA); the χ^2 goodness-of-fit statistic; the Goodness of Fit Index (GFI); the Comparative Fit Index (CFI); the Non-Normed Fit Index (NNFI); and the Akaike Information Criterion (AIC). The χ^2 goodness-of-fit statistic should be $\leq .05$. This indicator is sensitive to large sample sizes and the probability of rejecting a model when it is true may increase with larger sample sizes (Marsh, Hau, & Wen, 2004). Therefore it is important to use relative fit indices (CFI and NNFI); values typically range from zero to unity, and $\geq .90$ are considered to indicate an acceptable fit (Hoyle, 1995). Hu and Bentler (1999) and others (Schermelleh-Engel, Moosbrugger, & Mueller, 2003) recommend a higher cut off for a good fit of at least .95 for these relative fit indices. Recently scholars have argued that these levels are too restrictive and other considerations need to be made (Marsh, Hau, & Wen, 2004). GFI values also range from zero to unity; GFI $\geq .90$ is considered a reasonable fit and GFI $\geq .95$ is considered a good fit (Hoyle, 1995; Schermelleh-Engel et al., 2003). RMSEA values should be close to zero; values $\leq .08$ are considered sufficient (Browne & Cudeck, 1993), and $\leq .05$ a good fit (Schermelleh-Engel et al., 2003). Smaller levels of AIC indicate a better fit (Schermelleh-Engel et al., 2003). Maximum likelihood estimation methods were used in the SEM analysis.

To validate the model, we randomly split the data into two files (N1 = 1577, N2 = 1575) and reran the model as an SEM multi-group analysis. First we compared the structural paths of the model when the paths were allowed to vary between the two groups (M2). Then we compared the fit of the model when the paths were constrained to be equal between the two groups (M3); in this case we assume the model is equal in the two separate data sets. If there is no deterioration in fit between the unconstrained and constrained model, we can assume that the models are equivalent, and the structural relationships between the constructs are equivalent. In this case a conclusion that the model as outlined in Figure 3 is validated in two separate samples is warranted.

Table 3. Comparison of Alternative Models

	χ^2	df	p	GFI	CFI	NNFI	RMSEA	AIC
M1. Study Model	2192.29	228	.001	.95	.94	.92	.05	2386.20
M2. Unconstrained Model	2431.07	456	.001	.94	.94	.92	.04	2819.07
M3. Constrained Structural Model	2502.24	506	.001	.94	.94	.92	.04	2793.24
Null Model	33959.78	300	.001	.34	.00	.00	.19	34009.78

Note. χ^2 goodness-of-fit statistic; df = degrees of freedom; p = probability level; GFI = Goodness of Fit Index; CFI = Comparative Fit Index; NNFI = Non-Normed Fit Index; RMSEA = Root Mean Square Error of Approximation; Akaike Information Criterion (AIC).

Taking account of all the loadings on the factors as well as the structural relationships we found that when the paths were constrained the model fit the data quite well (M3). Although there was a significant deterioration in Chi-square, all of the other fit indices were identical, and the AIC improved. This indicates overall, that variations between the models are very small, and that the unconstrained model is not superior (Bakker, Demerouti, Taris, Schaufeli, & Schreurs, 2003). Results indicate that the study model is a plausible account of the relationships among the variables in the validation samples.

A final point to make is that the study model controls for covariates, and these are allowed to correlate with all of the constructs in the model. In many cases the relationships reduce the overall fit of the model. If these are removed the fit of the model is further improved, GFI and CFI > .95, and the significance of RMSEA is PCLOSE > .05, indicating the model is a close fit to the data.

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Appendix D

Smaller versus larger states

Table 6. Multivariate analysis of variance in both large and small states

	Mean		Std. Deviation		F Corrected	Partial Eta Squared	Effect size
	Large	Small	Large	Small			
	N =2672	N = 841	N =2672	N = 841			
Psychosocial Safety							
Psychosocial Safety Climate	40.64	39.34	10.20	10.74	1.00	.015	
Demands							
Emotional Demands	10.36	10.60	2.41	2.50	.72	.008	
Work pressure	30.88	31.56	5.41	5.68	1.10	.027	
Physical Demands	10.32	10.08	2.81	3.17	1.42	.014	
Work-Family Conflict	17.95	18.43	8.33	8.51	1.21	.014	
Harassment	8.57	8.86	2.32	2.51	1.34	.014	
Bullying	.46	.83	2.04	3.00	.55	.002	
Organisational Change	7.19	7.57	1.71	1.79	1.58*	.014	small
Resources							
Rewards	11.51	11.53	1.68	1.88	1.29	.014	
Organisational Justice	11.01	10.95	1.96	1.97	1.20	.019	
Co-worker Social Support	9.73	9.71	1.31	1.25	1.68*	.010	small
Supervisor Social Support	9.14	9.09	1.54	1.62	1.08*	.008	
Decision Authority	34.87	34.83	6.29	6.32	.80	.006	
Skill Discretion	34.58	35.35	5.09	5.11	1.79**	.024	small
Macro-Decision Latitude	7.61	7.41	1.64	1.67	.92	.008	
Outcomes †							
Depression	3.46	3.62	3.81	4.04	1.37	.015	
Psychological Distress	1.46	1.53	.50	.53	1.41*	.020	small
Emotional Exhaustion	15.15	16.40	7.73	8.13	1.63**	.023	small
Work Engagement	50.99	51.23	9.75	9.42	1.11	.035	

Note. Covariates, age, gender, income. † test failed to satisfy assumption of homogeneity of variance. * = $p < .05$; ** = $p < .01$.

To test differences between large (NSW, WA, and SA) and small states (Tasmania, the ACT, the NT) we combined data for the large and small states. An ANCOVA run with the demand variables, showed that the underlying assumption of homogeneity of variance was met, $F(3353, 159) = 1.009, p = .483$. The same assumption was satisfied with the ANCOVA run for resource variables, evidenced by $F(2963, 188) = 1.042, p = .364$. However, the ANCOVA for the PSC variable did not meet the assumption of homogeneity of variance, $F(48, 3103) = 3.723, p < .001$. The same is true for the ANCOVA on outcome variables, $F(3122, 390) = 1.170, p = .022$. These results means that the ratio of the variance between the two groups on these four outcome variables is likely to make ANCOVA an inappropriate test for differences, and the results are to be interpreted with caution.

Between these ANCOVA tests only two variables registered as having statistically significant differences between large and small states, but further analysis was required due to the caution with false positives when the assumption of homogeneity of variance is not met. Consequently, psychological distress and emotional exhaustion were each subjected to an unpaired samples *t*-test. The existence of significant differences with small effects was supported in both psychological distress, $t(3511) = -3.23, p <.01$, and emotional exhaustion, $t(3511) = -4.02, p <.001$.

Analyses indicate significant weak differences between the three large states (NSW, WA, and SA) in comparison with the three small states (Tasmania, the ACT, the NT). Larger states represent better workplaces as they report less demands in the form of organisational change, more resources through co-worker support and less incidence of the psychological health outcomes emotional exhaustion and distress. On the other hand, the smaller states report greater skill discretion on the job. Overall, significant (albeit small) differences were observed between groups indicating more stable workplaces with the support of co-workers in larger states, as well their workers reporting lower incidences of poor psychological health.

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