BACKGROUND
BRIEFING:
Mental Stress at Work

February 2017
This whitepaper looks at the cost of mental stress to workforce health and the economy (Section 1) and how the scientifically validated HeartMath® system can help with stress prevention, intervention and management (Section 2).

Contents

Executive Summary ........................................................................................................ p. 3

Section One: Cost of Mental Stress ............................................................................... p. 4
  1. Mental Stress Costing Billions
  2. What is Work Related Mental Stress
  3. Impact on Employee and Workplace Health
  4. Workers at Risk of Stress
  5. Primary Hazards for Mental Stress Claims
  6. Cost of Loss of Time
  7. Mental Stress Claimants
  8. Most Common Expensive Claims

Section Two: HeartMath® Benefits .............................................................................. p. 12
  9. Employers Should Take Action
  10. Impact of HeartMath® on Managing Stress
  11. Scientifically Validated System for Improved Health
  12. How HeartMath® Works
  13. Heart-Focused Breathing
  14. Heart-rate Variability
  15. Heart-Brain Relationship
  16. Quick Coherence® Technique
  17. Outcomes of Practising Coherence Techniques
  18. Renewing Emotions

Conclusion ..................................................................................................................... p. 21
Executive Summary

Mental stress costs the Australian economy billions of dollars in lost productivity and workers’ compensation claims. It is a serious concern to the health and wellbeing of the national workforce, productivity and economy.

Whether mental stress originates from personality traits, personal life or work issues it can have substantial impact on performance, decision-making and social interactions within and outside the workplace. The downward spiral effect is:

- Increased absenteeism
- Decreased health and safety
- Expensive worker’s compensation claims
- Increased insurance premiums
- Staff turnover and re-employment/training costs
- Lower customer satisfaction

While businesses have a legal responsibility to ensure organisational structures comply to occupational health and safety standards, the scientifically validated HeartMath® system can substantially complement these measures.

The globally recognised HeartMath® system is based on 20 years of scientific research and improves mental and emotional wellbeing and the physical symptoms of stress. Not only does HeartMath® help improve the health, productivity and safety of a workforce it can lower workers’ compensation claims and boost an organisation’s financial bottom line.

Businesses and organisations that use the HeartMath® techniques and technologies equip their workforce with tools for managing stress and their emotional wellbeing. The cost-effective benefits include increased workplace health and safety, employee motivation, productivity and business profitability.
1. Mental stress costing billions

Mental stress is a rising concern in the Australian workplace, costing the economy billions of dollars and impacting the health and wellbeing of the workforce.

Not only does mental stress reduce work productivity, a Safe Work Australia report cites it as the most expensive form of workers’ compensation claims because it usually involves prolonged periods of absence.¹

The report reveals the loss of productivity and worker absence costs Australian businesses more than $10 billion year.

There were 28,495 mental stress claims accepted in Australia during the three-years of data (2008-09 to 2010-2011).

The alarming significance of mental stress is highlighted in a study commissioned by Medibank Private. The study found the total cost of work-related mental stress to the Australian economy in 2007 was $14.81 billion; the direct cost to employers in stress-related presenteeism and absenteeism was $10.11 billion.²

However, the actual prevalence of mental stress in Australian workplaces is likely to be much higher than workers’ compensation statistics because not all sufferers apply for or receive compensation. Seventy per cent of workers who had experienced work-related mental stress did not apply for workers’ compensation, according to a 2009-10 Australian Bureau of Statistics survey.³ It is important to note, while these workers did not apply for workers’ compensation, it is highly likely their mental stress was contributing to job under-performance, hence still costing their workplace untold dollars in lost productivity.

The economic cost of stress is not unique to Australia. For example, a 2004 Canadian Mental Health Association report stated the cost of stress to the US economy (due to absenteeism, health insurance claims, and lost productivity) cost approximately $150 billion per year.⁴ The same report noted stress-related mental health problems were costing Canadian businesses $33 billion and 66 per cent of Canadian CEOs surveyed admitted stress was the biggest drain facing corporate Canada.

³ Safe Work Australia (2013), The Incidence of Accepted Workers’ Compensation Claims for Mental Stress in Australia
2. What is work-related mental stress?

Work-related stress is the response people may have when presented with work demands and pressures that are not matched to their knowledge and abilities and which challenge their ability to cope.\(^5\)

Work stress is recognised world-wide as a major challenge to workers’ health and the healthiness of their organisations, according to The World Health Organisation.

Workers who are stressed are also more likely to be unhealthy, poorly motivated, less productive and safe at work. Their organisations are less likely to be successful in a competitive market.\(^6\)

Stress can arise from pressures at home and work and is a real problem to organisations and their workers. If experienced over a long period of time without resolution, mental stress can contribute to the development of serious physical and mental illnesses and burden health and welfare services.


3. Impact on employee and workplace health

Of increasing concern for employers, employees and the general public is the prevalence of mental disorders arising from work-related stress: mental stress accounted for an average of 95 per cent of mental disorder claims in the 10 years preceding the 2013 Safe Work Australia report. 7

The alarming snowball effect of mental stress includes a higher susceptibility to: anxiety, depression, aggression, burnout, fatigue, harmful lifestyle choices such as excessive alcohol or gambling, cardiovascular disease, diabetes and musculoskeletal disorders.

In the short term, stress may not be harmful. But if a stressful situation is prolonged it can affect employees' health and wellbeing in a number of ways, including:8

- **Physical** – headaches, indigestion, tiredness, slow reactions, shortness of breath, and over the longer term, physical illness
- **Mental** – difficulty in decision-making, forgetfulness
- **Emotional** – irritability, excess worrying, feeling of worthlessness, anxiety, defensiveness, anger, mood swings
- **Behavioural** – diminished performance, withdrawal behaviours, impulsive behaviour, increase in alcohol and nicotine consumption

**On the workplace**

There may be an increase in:

- Absenteeism
- Staff turnover (including additional costs associated with recruitment and re-training)
- Accidents and injuries
- Health care expenditure and employee compensation claims (including insurance premiums)
- Conflict
- Incivility – which can in turn lead to damaged relationships and allegations of bullying behaviours

There may be a decline in:

- Productivity and efficiency
- Job satisfaction, morale and team cohesion
- Quality of relationships
- Client satisfaction (e.g., with customer service)

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7 Safe Work Australia (2013), The Incidence of Accepted Workers' Compensation Claims for Mental Stress in Australia
4. Workers at risk of stress

No-one is immune to stress and people may react in different ways and at different stages. The employee’s personality, age, educational level, degree of training, health status and social status in the organisation combine with factors from outside the workplace to affect peoples’ reactions and coping abilities.9

5. Primary hazards for mental stress claims

Table 1 below shows a range of psychosocial hazards in a workplace situation identified by the World Health Organization and British Standards Institute as being the primary hazards for mental stress claims.

<table>
<thead>
<tr>
<th>Psychosocial hazards</th>
<th>Definition</th>
<th>Probable alignment to Mental stress sub-categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job content</td>
<td>Lack of variety or short work cycles, fragmented or meaningless work, under use of skills, high uncertainty, continuous exposure to people through work</td>
<td>Work pressure</td>
</tr>
<tr>
<td>Work load &amp; work place</td>
<td>Work overload or under load, machine pacing, high levels of time pressure, continually subject to deadlines</td>
<td>Work pressure</td>
</tr>
<tr>
<td>Work schedule</td>
<td>Shift working, night shifts, inflexible work schedules, unpredictable hours, long or unsociable hours</td>
<td>Work pressure</td>
</tr>
<tr>
<td>Control</td>
<td>Low participation in decision making, lack of control over workload, pacing, etc.</td>
<td>Work pressure</td>
</tr>
<tr>
<td>Environment &amp; equipment</td>
<td>Inadequate equipment availability, suitability or maintenance, poor environmental conditions such as lack of space, poor lighting, excessive noise</td>
<td>Other mental stress factors</td>
</tr>
<tr>
<td>Organisational culture &amp; function</td>
<td>Poor communication, low levels of support for problem solving and personal development, lack of definition of, or agreement on, organizational objectives</td>
<td>Work pressure</td>
</tr>
<tr>
<td>Interpersonal relationships at work</td>
<td>Social or physical isolation, poor relationships with superiors, interpersonal conflict, lack of social support, bullying, harassment</td>
<td>Work-related harassment &amp;/or workplace bullying</td>
</tr>
<tr>
<td>Role in organization</td>
<td>Role ambiguity, role conflict, and responsibility for people</td>
<td>Work pressure</td>
</tr>
<tr>
<td>Career development</td>
<td>Career stagnation and uncertainty, under promotion or over promotion, poor pay, job insecurity, low social value to work</td>
<td>Other mental stress factors</td>
</tr>
<tr>
<td>Home–work interface</td>
<td>Conflicting demands of work and home, low support at home, dual career</td>
<td>Other mental stress factors</td>
</tr>
</tbody>
</table>


6. Cost of lost time

The loss of productivity and worker absence related to mental stress costs Australian businesses more than $10 billion a year.\(^{10}\)

The breakdown of claims across all work sectors shows mental stress claims as the most expensive form of workers’ compensation claims because of the often lengthy periods of absence from work typical of these claims. However, the most common workers’ compensation claim is for musculoskeletal disorders.

Injury and musculoskeletal disorders lead to 90 per cent of serious claims and the most common are traumatic joint/ligament and muscle/tendon injuries (45 per cent). Furthermore, research has found increasing evidence of the role mental stress plays in the development of musculoskeletal disorders. (Note: Serious claims refer to a workers’ compensation claim for an incapacity requiring an absence from work of one week or more).

While Australian workers’ compensation schemes show a downward trend in the claims frequency of all claims, the mental stress claims frequency has increased since 2001 but most notably since 2008.\(^{11}\) As well as causing distress, ongoing mental stress can contribute to the development of serious mental and physical illnesses. In addition, it reduces organisational productivity and burdens health and welfare services.

The median mental stress claim has 10 times longer off work (lost time) than the median across all claims, as shown in figure 1 below.

Figure 1. Median Lost Time: Mental Stress vs All claims

Source: Institute of Actuaries of Australia (2013), Stress and mental injuries – How to compensate

\(^{10}\) Safe Work Australia (2013), The Incidence of Accepted Workers’ Compensation Claims for Mental Stress in Australia

\(^{11}\) A McInerney, D Gregory, Stress and mental injuries – How to compensate? prepared for the Institute of Actuaries of Australia 2013 Injury Schemes Seminar
Of further concern is the continued rise in the median lost time for mental stress claims as shown between 2001 and 2011 in figure 2 below.

**Figure 2. Median Lost Time: Mental Stress vs All Claims**

Source: Institute of Actuaries of Australia (2013), Stress and mental injuries – How to compensate
7. Mental stress claimants

The 2013 Safe Work Australia report revealed about two-thirds of all mental stress claims for 2008-09 to 2010-11 combined were from five industry sectors. These were:

- Health and community services (20.5 per cent)
- Education (16 per cent)
- Personal and other services (13.6 per cent)
- Government administration and defence (9.6 per cent)
- Retail trade (7.2 per cent)

Table 2 below shows mental stress claims by males and females across broad industry sectors for 2008-09 to 2010-11 combined.

Table 2. Mental stress claims: number, percentage and frequency rates by sex and industry, 2008-09 to 2010-11 combined

<table>
<thead>
<tr>
<th>Industry</th>
<th>Number of claims</th>
<th>Frequency rate(a)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males</td>
<td>Females</td>
</tr>
<tr>
<td>Health &amp; community services</td>
<td>1,294</td>
<td>4,557</td>
</tr>
<tr>
<td>Education</td>
<td>12,18</td>
<td>3,336</td>
</tr>
<tr>
<td>Personal &amp; other services</td>
<td>2,362</td>
<td>1,504</td>
</tr>
<tr>
<td>Government administration &amp; defence</td>
<td>1,110</td>
<td>1,635</td>
</tr>
<tr>
<td>Retail trade</td>
<td>708</td>
<td>1,348</td>
</tr>
<tr>
<td>Property &amp; business services</td>
<td>788</td>
<td>2,216</td>
</tr>
<tr>
<td>Transport &amp; storage</td>
<td>1,503</td>
<td>384</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>841</td>
<td>464</td>
</tr>
<tr>
<td>Accommodation, cares &amp; restaurants</td>
<td>437</td>
<td>636</td>
</tr>
<tr>
<td>Finance &amp; insurance</td>
<td>183</td>
<td>617</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>340</td>
<td>331</td>
</tr>
<tr>
<td>Construction</td>
<td>412</td>
<td>122</td>
</tr>
<tr>
<td>Cultural &amp; recreational services</td>
<td>201</td>
<td>227</td>
</tr>
<tr>
<td>Communication services</td>
<td>78</td>
<td>87</td>
</tr>
<tr>
<td>Mining</td>
<td>126</td>
<td>32</td>
</tr>
<tr>
<td>Electricity, gas &amp; water supply</td>
<td>110</td>
<td>41</td>
</tr>
<tr>
<td>Agriculture, forestry &amp; fishing</td>
<td>79</td>
<td>60</td>
</tr>
<tr>
<td><strong>Total mental stress claims</strong> (b)</td>
<td><strong>113,466</strong></td>
<td><strong>16,650</strong></td>
</tr>
</tbody>
</table>

(a) Calculated as claims per 100 million hours worked.
(b) Includes claims where industry was not stated.

Source: Safe Work Australia (2013), The Incidence of Accepted Workers’ Compensation Claims for Mental Stress in Australia
8. Most common and expensive claims

Mental stress claims are the most expensive form of workers’ compensation claims because of the often lengthy periods of absence from work typical of these claims. However, the most common workers’ compensation claim is for musculoskeletal disorders. The link between mental stress and musculoskeletal disorders which impact a business’ profitability, are among many reasons why stress needs to be prevented and remedied in the workplace.

While organisational structures must be implemented to limit hazards of workplace stress, employers and employees can also benefit from personal skills which help them cope with potential stress triggers.

For these reasons, it makes good business sense for employers and employees to have the tools to manage their stress – whether it is work related, or overflows on the job from unrelated stress in their personal lives.
Section 2: HeartMath® Benefits

9. Employers should take action

To increase employee health and boost company profits, employers need to take action to prevent workplace stress.

There are measures that individuals and organisations can take to alleviate the negative impact of stress, or to stop it from arising in the first place. However, employees first need to learn to recognise the signs that indicate they are feeling stressed out, and employers need to be aware of the effects that stress has on their employee’s health as well as on company profits.12

10. Impact of HeartMath® on managing stress

Individual levels of self management regarding stress and affect can be improved with training and practice in HeartMath® techniques. If interpretive styles (of stress) can be revised by training, a large portion of the billions of dollars spent on stress management and stress-related illness could be channelled into more productive activities.13

The end result may be that individuals may ‘let in’ productive and necessary stress responses, while screening out inappropriate responses, maximising their potential effectiveness and health.14

12 M Bickford, Stress in the Workplace: A General Overview of the Causes, the Effects, and the Solutions, Canadian Mental Health Association Newfoundland and Labrador Division (August 2005)
11. Scientifically validated system for improved health

HeartMath® is an evidence-based system of techniques and technologies for managing stress, improving health and performance. HeartMath® helps people synchronise their breathing and heart rhythms with emotional regulation to access the high-performance state called heart coherence.

The globally recognised HeartMath® system has been developed by 20 years of scientific research by the Institute of HeartMath® in the United States. Introducing HeartMath® to employees is a game changer to their work capacity because it is easy to use and has measurable outcomes.

The techniques, products and technology are non-invasive and suitable for people of all nationalities and religious backgrounds. The HeartMath® system is widely used in North America by:

- Hospitals and health professionals
- Businesses
- Police, fire, corrections
- Schools, universities, non-profits;
- Professional athletes/Olympic teams
- Military, special forces
12. How HeartMath® works

HeartMath® tools and techniques help users create heart coherence: a state of synchronisation between heart, brain, nervous system and emotions. This measurable physiological state is the foundation of optimal performance and health. The Institute of HeartMath describes coherence as a calm, lucid, energised state – it is more than relaxation.

Heart coherence is not meditation, nor a relaxation technique: it is a skill, which helps people stay calm and access their best judgement and critical thinking.

The Institute of HeartMath® research shows coherence significantly improves brain function and health and wellbeing. More specifically the institute’s studies have found coherence has the following positive results:

**Brain function**
- Increased ability to self-regulate (Bradley, 2010; Bedell 2010)
- 40 per cent improvement in long-term memory (McCraty, 2010)
- 24 per cent improvement in short-term memory (McCraty, 2010)
- Increased ability to focus (Lloyd, 2010; Ginsberg, 2010)
- Increased ability to process information (Ginsberg, 2010)
- Faster reaction times (McCraty, 2010)
- Higher test scores (Bradley, 2010)
- Improved ability to learn (Bradley, 2010)

**Health and wellbeing**
- Increased ability to self-regulate (Bradley, 2010; Bedell 2010)
- Increased calmness and wellbeing (Friedman, 2000)
- Increased emotional stability (McCraty, 2001)
- Improved hormonal balance (McCraty, 1998)
- Reduced anxiety and stress (Dunster, 2010)
- Increased ability to focus (Lloyd, 2010; Ginsberg, 2010)
- Increased ability to manage pain (Berry et.al., 2014)

Clinical studies have shown the following medical results for people using the HeartMath® system:

- **Blood pressure in hypertensive employees** – 20 per cent reduction in diastolic and systolic blood pressure (LifeScan)
- **Diabetes** – 30 per cent increase in quality of life metrics; 1.1 per cent reduction in HbA 1c
- **Congestive heart failure** – increased functional capacity, reduced stress and depression
- **Heart arrhythmias** – 75 per cent of the patients had significantly fewer episodes of atrial fibrillation and 20 per cent were able to stop medication (Kaiser Permanente)
- **Asthma** – more than 50 per cent of patients experienced a decrease in airway impedance, symptom severity and medication consumption
13. Heart-focused breathing

Heart-focused breathing is one of the scientifically proven HeartMath® techniques which helps users to increase their energy, coherence and resilience. Certified HeartMath® trainers teach people how to direct their attention to the heart area and breathe a little more deeply than normal. The technique only takes a few minutes a day but can add lots of benefits to the user’s life. A few minutes of heart-focused breathing is especially beneficial at moments a person is feeling stressed. For example, when running late for an appointment, before a work presentation or appraisal, or before an awkward encounter with a colleague or client they would rather avoid.

Heart-focused breathing is a powerful and effective HeartMath® tool for self-regulation. It is the first step in shifting to a more coherent state – the user is alert and calm at the same time. Heart-focused breathing can help an individual maintain their composure in challenging situations.

Certified HeartMath® trainers teach workers from all industries correct heart-focused breathing techniques and how, when used for a few minutes daily, it can help them manage stress, improve health and work performance.

HeartMath® offers various tools and technology, including the emWave2® and computer-based emWave® Pro for PC and Mac, that were scientifically designed to complement heart-focused breathing and other HeartMath® techniques. These feedback devices are fun and simple to use.

Figure 3 below demonstrates the dramatic improvement in mental and emotional wellbeing six weeks after HeartMath® training.

Figure 3. Improvements in Mental & Emotional Well-Being, Before and After Six Weeks of HeartMath® Training
The improvements in physical symptoms for participants six weeks after taking the HeartMath® program were equally impressive, as shown in figure 4 below.

Figure 4. Improvements in Physical Symptoms of Stress

Figure 5. Case Study: Medical Claims Reduction Data: 1100 Trained in HeartMath® = 39% Lower Costs

- Healthplan Total Claims Expense (PMPY)$_1$
  - 2007: $3,730.53
  - 2008: $3,423.56
  - 2009: $3,432.40
  - 2010: $3,292.14

- HeartMath Participants Claims Expense PMPY$_2$
  - 2007: $1,727.09
  - 2008: $1,916.37
  - 2009: $1,819.17
  - 2010: $2,279.78
  - 2011: $3,011.10
14. Heart-rate variability (HRV)

We have the most heart-rate variability (HRV) when we are young and it steadily declines as we age. HRV is an important indicator of psychological resilience and ability to handle stress.

Below-normal HRV for your age is a strong and independent predictor of future health problems, including all-cause mortality.

Higher levels of HRV are associated with superior mental performance on tasks requiring executive functions.

15. Heart-brain relationship

The heart has its own complex nervous system: the “heart brain”. The heart sends more information to the brain than the brain to the heart. Institute of HeartMath research shows heart rhythms directly affect physical and mental performance. Heart signals especially affect the brain centres involved in strategic thinking, reaction times and self-regulation.

A state of incoherence inhibits brain function while a state of coherence facilitates brain function.

Figure 7 below demonstrates the impact HRV has on brain function.
16. Quick coherence® technique

By making a sincere attempt to experience a regenerative feeling such as appreciation or care for someone or something helps a person reach coherence. It is one of numerous techniques taught by certified trainers of the HeartMath® program.

17. Outcomes of practising coherence techniques

Heart-focused breathing and activating a positive and renewing feeling have scientifically proven benefits to a person’s ability to recognise and manage stress; improve health and performance. Twenty-years of clinical studies by Institute for HeartMath show that practising HeartMath® techniques to reach a state of coherence has the following outcomes:

• Enhances ability to maintain composure during challenges
• Improves family and social harmony
• Reduces fatigue and exhaustion
• Promotes the body’s natural regenerative processes
• Improves co-ordination and reaction times
• Enhances ability to think clearly and find better solutions
• Improves ability to learn and achieve higher test scores
• Increases access to intuitive intelligence
18. Renewing emotions

Emotions and attitudes such as care, courage, tolerance and appreciation create neurochemicals that regenerate your system and offset energy drain, resulting in:

- Increased longevity
- Increased resilience to adversity
- Improved memory
- Improved problem solving
- Increased intuition and creativity
- Improved job performance and achievement
19. Build resilience, lower stress

HeartMath® teaches three strategies for building and sustaining resilience.

1. **Prep** to set the tone for the day and to be more composed before upcoming stressful events.

2. **Shift and reset** to a more coherent state as soon as possible after a stress reaction to minimise energy drains.

3. **Sustain your resilience** throughout the day through regular practice and by remembering to refresh your composure in between activities and events.

Figure 8 below shows how a North American police officer trained in HeartMath® techniques was able to efficiently reset his state of coherence after attending a domestic violence scenario.

![Figure 8.](Image)
Conclusion

Australian employers cannot ignore the detrimental impact of stress on employee health, business productivity and profitability. Stress is costing the economy billions of dollars in absenteeism, lost production and worker’s compensation claims.

Mental stress claims are the most expensive form of workers’ compensation claims because of prolonged periods of absence, while the most common claim is for musculoskeletal disorders. With research linking stress to the development of many musculoskeletal disorders, it makes business sense for employers to help their workforce prevent, recognise and manage stress.

The scientifically validated HeartMath® system is a proven tool for helping users from many work sectors and elite athletes manage stress, improve health and performance. Giving employers and employees the opportunity to learn and practise HeartMath® techniques is a wise investment in the future health of an organisation’s workforce and financial bottom line.

For more information about using HeartMath® techniques and tools to improve workforce health and productivity and reduce workers’ compensation spend on mental stress, contact Work Healthy Australia on 1300 734 643 or email helpingyou@workhealthyaus.com.au

*A full reference list can be made available by contacting us at helpingyou@workhealthyaus.com.au
HOW STRESS AFFECTS THE BODY

At least 60–80% of GP visits are related to stress. Only 3% of patients receive stress management help.

- Chronic Fatigue
- Decreased Energy and Mood
- Sleep Disorders and Fatigue
- Headaches, Dizziness, ADD/ADHD, Anxiety, Irritability and Anger, Panic Disorders
- Grinding Teeth and Tension in Jaw
- Increased Heart Rate, Strokes, Heart Disease, Hypertension, Diabetes Type I and II, Arrhythmias
- Digestive Disorders, Upset Stomach, Abdominal Pains, Irritable Bowel Syndrome
- Weight Gain and Obesity
- Decreased Sex Drive
- Muscle Tension, Fibromyalgia, Complex Regional Pain Syndrome