

# Stressing an Alternative for a New Era of Health and Safety: Demystifying Work Stress

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To its credit, the Mining Industry is becoming increasingly aware that unmanaged mental stress is a significant risk factor to the health and safety of workers. Without an evidence-based understanding about the real dynamics and impact of mental stress, however, there is a risk that valuable programmes addressing the health and safety of workers will be overlooked. Safeguarding the health and safety of employees by mitigating the risk factor of work stressors alone, is not enough.

For a new era of health and safety it is recommended that mining companies utilize more fully the valuable input of Mental Health experts when analysing and addressing the mental stress issues that affect the health and safety of their workers. It is also recommended that health and safety teams, when using workers compensation data as a resource in the workplace, fully understand the implications of the classification system of 'Mental Disease'.

## Assessing the Real Cost of Stress in the Mining Industry

Research highlights the significant link between mental stress and absenteeism, productivity, staff turnover, fatigue, human error, substance abuse, obesity, a weakened immune system and other health and safety concerns. Research also highlights the pervasive role that mental stress plays in the development of Psychological Disorders such as Depression and Anxiety.

The Black Dog Institute reports that:

- One in five Australians will experience a mental illness in a 12 month period.
- Mental disorders are the third leading cause of the non-fatal burden of disease and injury.
- Depressive symptoms are more likely to develop in those who work in jobs that have higher levels of psychological demand, work longer hours and have lower levels of social and environmental support.

A Harvard Study reports that 60 to 90% of all visits to a GP have a significant stress component.

Mental stress, regardless of whether it is work-related or not, if not managed properly, affects an employees' ability to feel well, think well, behave well, work well and work safely.

## The Importance of Focusing on the Individual and not Work Stressors Alone

Recognizing that a link exists between mental stress and the health and safety of workers is one thing, but actually understanding the nature of the link is imperative for the implementation of effective risk management solutions.

Presently, there is a strong focus within the Mining Industry to focus on the assessment and manipulation of work stressors in a way which can hopefully achieve 'zero harm'.

There is no doubt that identifying work stressors is a useful exercise when trying to understand how to minimize the negative impact of work stress on the worker and the organisation alike. Mining Companies need to be careful however, that they don't become so bogged down with the analysis and reporting of work-place risk factors that they overlook the larger picture of what stress is.

An important starting point is to acknowledge that it is not only work-place mental stress that impacts on the Mining Industry. Stress from all sources impacts on workers. Therefore, focusing on occupational risk factors alone is only one piece of the puzzle.

Needless to say, it is impossible for mining companies to eliminate all work stressors. Economic constraints, environmental realities of the job and so forth make it impossible to bullet proof organisations against the negative consequences of psychological stress by the manipulation of work stressors alone.

Each worker has their own individual response to 'stressors' and resilience to stressors fluctuates with each individual over time. Some workers, for example, may react negatively to one particular stressor whilst the same stressor may have no impact on another worker. We can all relate to times when we are full of energy and managing all the challenges before us and yet at other times feeling depleted and not performing tasks quite as well. It happens to all of us and no-one is immune from the negative impact of psychological stress. Mitigating stressors at work, therefore, is not a 'one size fits all' proposition.

It is important to emphasise that mental stress does not need to be a diagnosable Mental Disease or Stress Illness for psychological stress to be linked to:

- fatigue
- insomnia
- difficulty concentrating
- poor decision-making
- human error and accidents
- low morale
- problems with communication
- anger
- weakened immune system
- substance abuse
- obesity

In fact psychological research highlights the inescapable link between mental stress and complex psycho-neurological, biochemical and physiological interactions in the body that impact on our ability to feel well, think well, work well and work safely.

In summary, it is normal for all human beings to suffer from mental stress. It is also 'normal' or 'typical' for all human beings to have times when they don't perform as well at work because of mental stress. The Mining Industry can therefore enhance existing risk management solutions by not only taking into account that all employees are subject to periods of negative stress reactions but by also focusing on prevention by embracing stress management programmes that target all employees before stress manifests as a problem.

### Focusing on the Root Cause or Starting Point of Mental Stress

As discussed, it is misleading to focus on external stressors alone as being the cause of workers' negative stress reactions. Psychologists have long understood that the root cause of mental stress is not really determined by external factors (work/personal stressors) but rather by a complex interaction of internal processes in the brain and body.

These internal processes determine workers' individual coping style. It determines the way they think, feel, behave and work. In turn, workers' individual coping style impacts on the complex set of interactions taking place in their brain and body. Simply put, this means that the complex interactions in the brain and body 'cause' your workers' overt reactions to stressors and these overt reactions 'cause' the complex interactions in the brain and body which affects both the psychological and physical health of the worker as well as their performance.

Mental stress therefore is both a psychological and physical phenomena and with recent technological advances, it can be observed right down to the molecular level.

The mental stress system can be switched on by a mere thought, something we have seen or heard or simply by a bio-chemical brain-body process that has no bearing to conscious thought or sensory input. Interestingly, a negative thought that switches on the brain-body stress system is also influenced or 'created' by that same brain-body stress system.

When the stress system is switched on the flight-fight response is activated. Our Sympathetic Nervous System kicks in with a complex set of interactions in our brain and body. At the right level, our stamina and alertness allow us to perform well. If it is switched on for too long, or if the level is too high, we lose our ability to feel well, think well, behave well and work well. It even weakens our immune system and we are more prone to accidents, illness and mental health problems. An over-active Sympathetic Nervous System has even been linked to high blood pressure, cardiovascular disease, organ inefficiency and impaired brain function.

The key is to learn how to, at will, switch down or turn off our Sympathetic Nervous System and switch on our Para-Sympathetic Nervous System which sets the 'Rest, Repair, Regeneration' mechanisms in our brain and body. This is imperative for the health and safety of workers.

Knowing this can increase the potential for mining companies to broaden and significantly enrich the way health, well-being and safety issues are addressed. In a new era of health and safety this opens the door to being able to target evidence-based control measures that offer a front line defence focusing on the root cause of stress and prevention rather than treatment and mitigating occupational 'hazards' alone.

Effective risk management solutions, in a new era of Health and Safety should therefore focus on:

- control measures of intervention that target evidence-based stress management programmes
- control measures that target all employees
- control measures that focus on both prevention of cause and treatment of effect
- control measures that get to the 'root cause' or 'starting point' of the stress response
- control measures which are assessed, designed and delivered by mental health experts

### The Benefits of Utilizing the Expertise of Mental Health Professionals

Mental Health experts are trained to not only understand the root causes of stress but also to assess which stress management techniques are the most effective. Mental Health Psychologists, for example, have at least 6 years of training in the area of cognitive and behavioural assessment and management and can bring invaluable guidance to Health and Safety Teams in the Mining Industry.

As a result of their expertise, there is an increasing trend where Psychologists are being employed full-time within organisations because of the valuable input that they can provide. The NSW Police Force for example, has made significant inroads by employing Mental Health Psychologists in-house for the assessment, design and evaluation of useful Health and Well-Being Programmes in addition to educating and assisting The NSW Police Force in matters relating to the mental health of their employees and the impact of this on the organisation.

Just like the NSW Police Force, The Queensland Mining Industry can also benefit by utilizing more fully the expertise of Mental Health Psychologists in-house to assess, design and deliver preventative mental health and well-being programmes. Without the input of mental health experts there is a risk that the simplest, most beneficial and most cost-effective health and safety programmes may be inadvertently overlooked or undervalued.

A major resource on 'Human Factors' utilised by the Mining Industry on 'Error Management' (Reason, 1997) states that "situations and systems are easier to change than the human condition" and "you cannot change the human condition, you can only change the conditions under which people work". This resource is widely accessed and referenced in the Queensland Mining Industry (see the link to HSE at <http://mines.industry.qld.gov.au/safety-and-health/human-factors.htm>).

Psychologists understand that the human condition is in fact not fixed and the internal processes of the brain and body which determines workers' coping style and reactions to work stressors can be altered. Clinical studies abound highlighting how humans can be taught to consciously control these internal brain-body processes (Research Evidence: [www.autogenics.com.au](http://www.autogenics.com.au) and Ross, 2010).

### Autogenic Training

One such technique, Autogenic Training, was developed in Germany by two Neuroscientists, Dr Johannes Schultz and Dr Wolfgang Luthe (Schultz and Luthe, 1969) using strict research protocols. Backed by over 3,000 clinical studies worldwide, it has been proven to be a powerful tool for brain-body health and enhanced performance.

The National Aeronautical Space Agency (NASA) has an Autogenic Training Programme to help their astronauts and military pilots adapt to the psychological and physical stressors of space travel. The Space Shuttle Endeavour crew, for example, were given 4 to 6 hours of Autogenic Training and training was effective in 85% of astronauts and military pilots tested (The AMES Research Centre: <http://search.nasa.gov/search/centersearch.jsp?centername=ames&nasainclude=autogenic>).

The Autogenic Training Institute of Australia conducted Autogenic Training for NSW Police. Post training assessments demonstrated:

- significant mental stress symptom reduction overall
- a more positive outlook
- improvements in thinking capability
- improvements in sleep hygiene and a decrease in headaches (for those who reported insomnia and stress related headaches)
- speedy return to work (for those on stress leave with less enduring conditions).

The benefit of stress management programmes such as Autogenic Training for mining companies is that it targets the 'starting point' of our reactions to mental stress. By training workers to self-regulate their brain-body processes by switching off their Sympathetic Nervous System and switching on their Para-Sympathetic Nervous System it enhances brain-body health and performance across all endeavours. It is evidence-based, cost-effective, prescriptive and useful for both prevention and treatment. It is taught as a series of validated exercises in a half-day

or one-day workshop format. Results are experienced immediately and benefits are sustainable ([www.autogenics.com.au](http://www.autogenics.com.au)).

### Understanding the Limitations of EAP

Increasingly, mining companies are offering to employees the chance to consult with a Psychologist or Counsellor one-on-one for a limited number of sessions per year, to discuss any problem, personal or otherwise, that may be bothering them. This service is usually out-sourced to a company that is referred to as an Employee Assistance Programme Provider. Mostly, these firms then out-source this work to independently practising Counsellors, Social Workers or Psychologists.

Whilst this is a very beneficial offering, EAP Counselling has some shortcomings when this is the only mental health service being offered by the organisation.

The main focus of EAP Counselling is to fix the problems of individual employees, one on one, if the employee is not resistant to the service. In other words, with EAP Counselling, the employees are already being 'bothered' by these problems. Not only that but many employees are resistant to accessing the EAP service for a variety of reasons including the so-called stigma associated with mental health, the fear of confidentiality and also simply because they are either unaware that they may have a mental health problem or they assume that they cannot benefit from counselling.

As well as focusing on the treatment of mental stress problems for the 'select few' mining companies should also be focusing on stress management programmes that target the prevention of mental stress problems for all workers, thereby safeguarding both the workers and the organisation from the well-documented negative impact of mental stress.

### What Workers Compensation Data Reveals about Cost

The cost of stress claims to the Mining Industry reveals only one small part of the overall cost of stress to the industry. The Mining Industry, when analysing the cost of stress overall, needs to be vigilant in its interpretation of workers compensation data.

In a new era of Health and Safety, it is important that the Mining Industry is aware that quantitative and perhaps even qualitative data on the impact and cost of mental stress within the industry has probably been underestimated due to the emphasis on the cost of work stress rather than the cost of mental stress in general, and also due to the way workers compensation data on mental stress has been classified and reported.

In order to understand the 'real' cost of mental stress correct interpretation of the data relies on a thorough understanding of the system of classification.

The classification system used by the workers compensation industry Australia wide is set by Safe Work Australia using 'TOOCS' (Type of Occurrence Classification System, Third Edition, Revision 1, May, 2008). Work Cover Queensland and Q-Comp use TOOCS data in their annual reporting and then pass this data on to the

Office of Economic and Statistical Research. It is very important to point out that in this system, only primary injuries are reported in data.

TOOCS is designed for use in the coding of workers' compensation claims and is also used as a resource by employers in the workplace. In TOOCS, coding is conducted in the following way. First of all, 'the nature of injury/disease' is coded. Psychological Injuries are coded as a 'Mental Disease' (can be used interchangeably) and then further coded depending on the kind of 'Mental Disease'. There are 8 stress related diseases in total that can be coded under 'nature of injury/disease', including 'Depression', 'Anxiety/Depression' and 'Post-Traumatic Stress Disorder'. In addition to coding 'nature of injury/disease', the 'mechanism' of the injury is recorded, that is, the kind of work related event that contributed to the 'Mental Disease'. The 'mechanism' of Mental Disease' is referred to as 'Mental Stress' and for coding purposes, this is broken up into categories such as 'Work Pressure', 'Exposure to a Traumatic Event' amongst others.

The Type of Occurrence Classification System (TOOCS) begins in the office of the treating medical practitioner of the employee. The doctor must choose the injury that he/she assesses to be the primary/major injury sustained from a numbered list of work-place injuries/diseases. In TOOCS, unless an injury is recorded by the doctor as the primary injury, it will not be included in workers compensation data. Therefore, if an employee presents to the doctor with both a work related physical injury and a psychological injury it is in the medical practitioner's hands to decide which injury is the major injury and code it accordingly. If the employee is suffering from a psychological disorder related to the physical injury it may be possible that in some cases the medical practitioner, given the medical rather than mental health expertise, will view the psychological injury as secondary to the physical injury.

In summary, if a Psychological Injury is considered a secondary injury it will not be included in the reporting of workers compensation data by the workers compensation industry. This reporting (or lack of) moves down the line to the Mining Industry who then reports on Psychological Injury in their annual Safety, Performance and Health and reports.

There is also a risk that psychological injury will be less likely to be reported in workers compensation data than physical injury because a psychological injury is a largely 'unseen' injury. It relies on the reporting of the worker to the doctor for it to be recorded. Demographically speaking, Mining Industry employees may be less likely than employees from another industry to report a mental health issue to their doctor or employer due to either the perceived stigma of admitting to such a problem or simply because of a personal lack of self-awareness regarding mental health.

As a system of classification, TOOCS is probably as prescriptive as you can get but the clarity becomes blurred once the data is used as a resource and reported on by employers who are unfamiliar with the methodology and definitions of classification. Even though the term 'Mental Disease' can be used interchangeably with 'Psychological Injury', when compensation data specific to injury is utilised by organisations, there are instances when 'Mental Disease' has been overlooked in reporting as an injury, thereby, becoming the forgotten injury.

Without knowing that there are 8 stress related diseases in TOOCS it would be an easy mistake to think that the cost of claims for 'Anxiety/Stress Disorder' covers the total cost of work-related stress claims.

The Mining Industry Injury compensation data published in 'The Queensland Mines and Quarries Safety Performance and Health Report, 2010-2011' states that \$598,278 was paid out in stress claims for 'Anxiety-Stress Disorder' costing on average, \$54,389 per claim in Coal and Metalliferous Mining (sourced from the Office of Economic and Statistical Research and derived from data provided by WorkCover Queensland and the self-insurers through Q-Comp).

The cost per Anxiety/Stress Disorder claim exceeded that of the most expensive physical injury claim ('Disc') by \$37,586 per claim. Although there were only 11 Anxiety/Stress Disorder claims, the total cost of claims of this nature made it the seventh most expensive injury listed in The Nature of Injury (Table 8.1 'Worker's Compensation Data-Claims and Associated Costs, 2010-1022).

'Anxiety/Stress Disorder' is only recorded when:

- a) the claimant is put on restricted duties
- b) the injury/disease is as a result of a single traumatic event
- c) the injury/disease is work related
- d) the claimant's Anxiety/Stress has been diagnosed by the treating doctor as the primary injury and not the secondary injury
- e) the claimant's mental stress condition has been recorded in the 'Anxiety/Stress Disorder' category instead of one of the other 7 stress related psychological categories which have overlapping symptomology.

In other words, the 'cost' of Anxiety/Stress Disorder as it appears in The Mines and Quarries Safety Performance and Health Report represents only one very small component of the cost of mental stress to the industry overall.

On investigating how mental stress is reported both within mining companies and the Mining Industry as a whole, it becomes evident that a cross analysis of mental stress reporting is fraught with difficulties. We need to ask exactly how terms are defined. For example, is mental stress being considered a disease or an injury or both a disease and an injury or is it being referred to as the 'mechanism' of Mental Disease (as in TOOCS) for reporting purposes? Is data on Stress Illness referring to work related Stress Illness or is it pooling data regardless of attribution? Is a Stress Illness being classified in the same way that Psychologists and Psychiatrists classify Stress Illness (DSMIV) or is an organisation or industry applying its own definition? Is Depression which has a significant mental stress component, being included in mental stress statistics?

### The Next Step for a New Era in Health and Safety

In conclusion, the Mining Industry can benefit from having a greater understanding of how mental stress relates to the health and safety of workers from an evidence-based mental health perspective.



At present, there is a risk that the real cost of the impact of mental stress in the Mining Industry has been underestimated. It would be beneficial to:

- a) increase awareness of the way mental stress disorders are defined and coded in the TOOCS classification system
- b) be aware that the classification system 'ignores' secondary injuries thereby 'hiding them' in the reporting of workers compensation data
- c) be aware that psychological injuries sometimes occur as a result of physical injuries, and as a result are likely to be classified as 'secondary' and overlooked in reporting
- d) increase transparency and uniformity in the way stress is defined and reported by companies
- e) address the impact of mental stress that is not work-related
- f) take into consideration that psychological injury is an 'unseen' injury and relies on the reporting of the worker
- g) acknowledge that mental stress affects everyone
- h) take into consideration that it doesn't have to be a diagnosable illness for it to impact negatively on the organisation and the worker

In light of the above, it is advantageous for the Mining Industry to address the issue of the funding of preventative stress management programmes more seriously.

The Mining Industry, whilst focusing on trying to mitigate work stressors, knows that it is impossible to eliminate all work stressors. Health and Safety Programmes that target the root cause of stress, that is, the internal brain-body processes of workers that lead to some workers reacting negatively to work stressors and others not, should be implemented.

In this era of change we can improve risk management by utilizing the expertise of Mental Health Psychologists in-house and by implementing programmes that train workers to manage their stress response BEFORE stress manifests as a problem, unlike EAP which is an intervention after the problem has manifested. Mental Health Psychologists can also play a valuable role in the scrutinization of Human Factors resources to ascertain the validity of human condition reporting.

Finally, the success of health and safety programmes within any organisation, rely to a great degree upon the positive engagement of Executive Management in the process. When Executive Management are seen to be supportive and involved, there tends to more positive individual employee engagement and more positive outcomes overall.

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